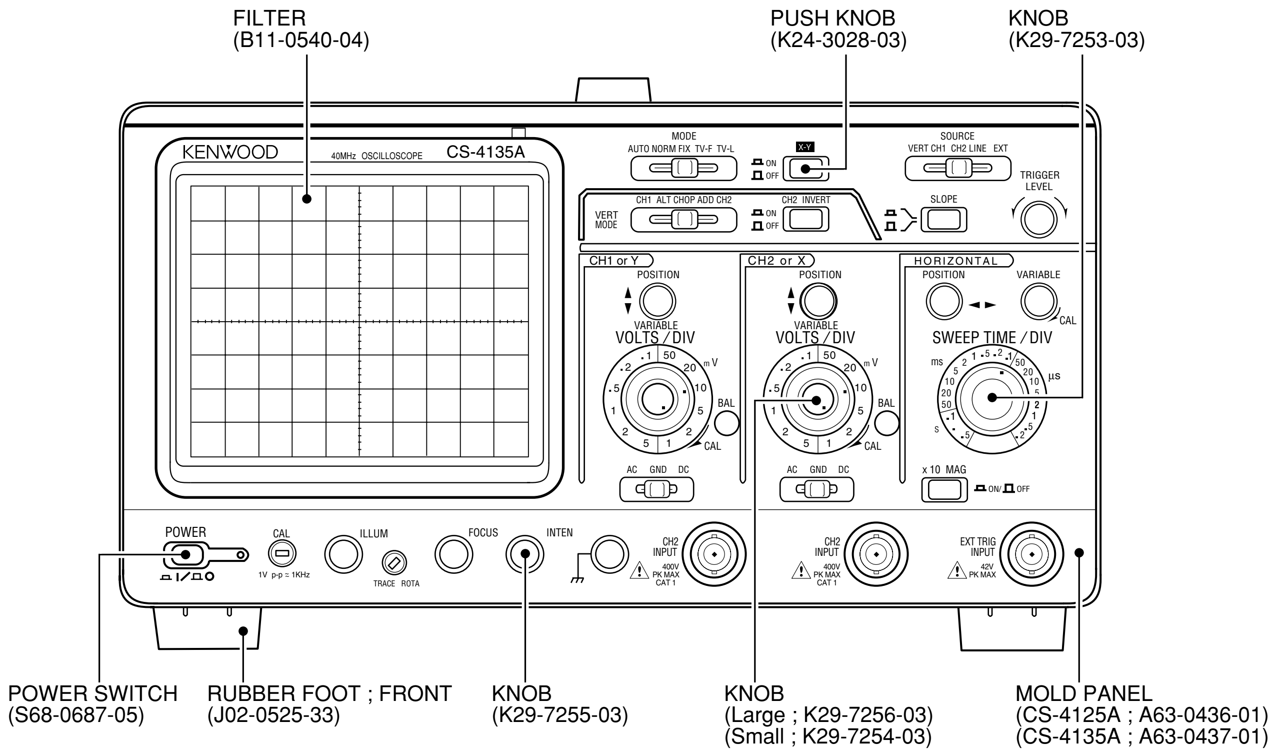
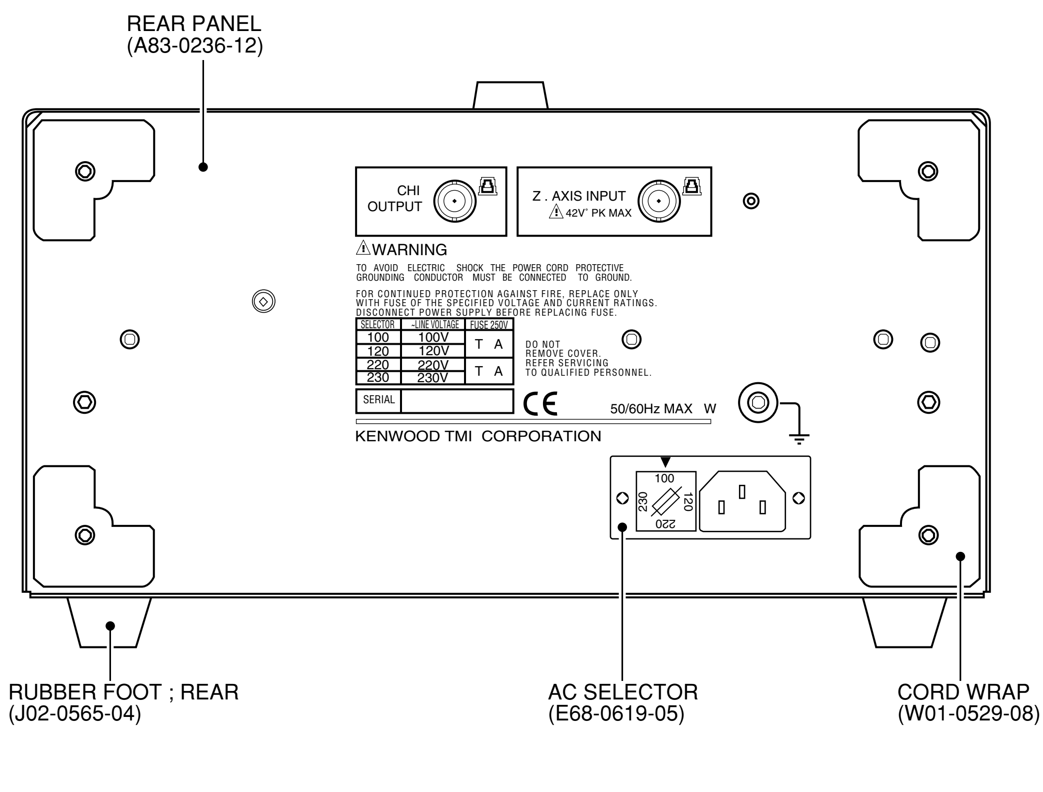
20MHz/40MHz OSCILLOSCOPE

CS-4125A
CS-4135A
SERVICE MANUAL

KENWOOD

KENWOOD TMI CORPORATION





WARNING

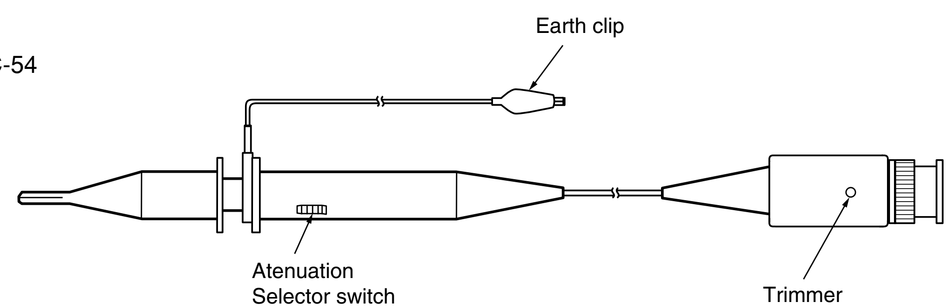
The following instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than contained in the operating instructions unless you are qualified to do so.

CONTENTS

Accessories

LOW CAPACITY PROBE

PC-54



SPECIFICATIONS

ITEMS	CS-4125A	CS-4135A
CRT		
Type	Rectangular with internal graticule	
Acceleration Voltage	Approx. 2kV	Approx. 12kV
Display Area	8 x 10 div (1 div = 10 mm)	
VERTICAL AXIS (CH1 and CH2)		
Sensitivity	1 mV, 2 mV/div ±5% , 5 mV/div to 5 V/div ±3%	
Attenuator	1-2-5 step, 12 ranges with fine adjustment	
Input Impedance	1 MΩ ±2% , Approx. 23 pF	
Frequency Response		
5 mV/div to 5 V/div	DC: DC to 20 MHz, within –3 dB AC: 10 Hz to 20 MHz, within –3 dB	DC: DC to 40 MHz, within –3 dB AC: 10 Hz to 40 MHz, within –3 dB
1 mV/div, 2 mV/div	DC: DC to 5 MHz, within –3 dB AC: 10 Hz to 5 MHz, within –3 dB	
Rise Time		
5 mV/div to 5 V/div	Approx. 17.5 ns (20 MHz)	Approx. 8.75 ns (40 MHz)
1 mV/div, 2 mV/div	Approx. 70 ns (5 MHz)	
Crosstalk	-40 dB maximum	
Operating Modes	CH1 : CH1 signal trance	
	CH2 : CH2 signal ttrance	
	ALT : Alternating display of two signals	
	CHOP : Chopped display of two signals	
	ADD : Display of combined CH1 + CH2 waveforms	
CHOP Frequency	Approx. 250 kHz	
Channel Polarity	Normal or inverted, channel 2 only inverted	
⚠ Maximum Input Voltage (peak to peak)	800 V peak to peak or 400 V (DC + AC peak)	
HORIZONTAL AXIS		
Sensitivity	Same as vertical axis (CH2)	
Input Impedance	Same as vertical axis (CH2)	
Frequency response (-3 dB)	DC: DC to 500 kHz	
	AC: 10 Hz to 500 kHz	
X-Y Phase Difference	3° or less at 50 kHz	
Operating Modes	X-Y operation is selectable with X-Y setting switch CH1: Y-axis CH2: X-axis	
⚠ Maximum Input Voltage	Same as vertical axis (CH2)	
SWEEP SYSTEM		
Sweep Modes	NORM: Triggered sweep	
	AUTO: Auto free run with no signal input	
Sweep Time	0.5 µs/div to 0.5 s/div ±3% , (0.2 µs/div: UNCAL)	0.2 µs/div to 0.5 s/div ±3%
	1-2-5 step, 20 ranges with fine adjustment	
Sweep Magnification	10 x magnification, ±5% (20 ns/div: UNCAL)	10 x magnification, ±5%
Linearity	±3% (0.2 µs/div: UNCAL) (±5% at x 10 MAG, 20 ns/div :UNCAL)	±3% , (±5% at x 10 MAG)

SPECIFICATIONS

ITEMS	CS-4125A	CS-4135A
TRIGGERING		
Triggering Source	VERT : Input signal selection with VERT MODE control	
	CH1 : CH1 input signal	
	CH2 : CH2 input signal	
	LINE : Commercial - use power source	
	EXT : Signal input through EXT TRIG terminal	
External Trigger		
Input Impedance	1 MΩ , Approx. 23 pF	
⚠ Maximum Input Voltage	84 V peak to peak or 42 V (DC + AC peak)	
Trigger Coupling Modes	AUTO, NORM and FIX are capacitively coupled	
	TV-F: Vertical sync pulses of a composite video signal are selected for triggering.	
	TV-L: Horizontal sync pulses of a composite video signal are selected for triggering.	

Trigger sensitivity
CS-4135A

MODE	SIGNAL FREQ.	SOURCE	
		VERT, CH1 , CH2	EXT
NORM	10 Hz to 20 MHz 20 MHz to 40 MHz	1.5 div. 2 div.	0.25 V peak to peak 0.3 V peak to peak
AUTO	Same as above specs at 50 Hz or above		
TV-F, TV-L	Composite video Signal	1div.	0.2 V peak to peak
FIX	50 Hz to 40 MHz	2 div.	0.5 V peak to peak

Trigger sensitivity
CS-4125A

MODE	SIGNAL FREQ.	SOURCE	
		VERT, CH1 , CH2	EXT
NORM	10 Hz to 5 MHz 5 MHz to 20 MHz	1 div. 1.5 div.	0.2 V peak to peak 0.3 V peak to peak
AUTO	Same as above specs at 50 Hz or above		
TV-F, TV-L	Composite video Signal	1div.	0.2 V peak to peak
FIX	50 Hz to 20 MHz	2 div.	0.5 V peak to peak

SPECIFICATIONS

ITEMS	CS-4125A	CS-4135A
CALIBRATED SIGNALS		
Waveform	Positive square wave	
Voltage	1 V peak to peak ±3%	
Frequency	Approx. 1 kHz	
INTENSITY MODULATION		
Sensitivity	TTL level, decreases brightness	
Input Impedance	Approx. 5 kΩ	
Usable Frequency Range	DC to 3.5 MHz	
⚠ Maximum Input Voltage	84 V peak to peak or 42 V (DC + AC peak)	
CH1 SIGNAL OUTPUT		
Output Voltage	Approx. 50 mV/div (at into 50 Ω load)	
Output Impedance	Approx. 50 Ω	
Frequency Response	100 Hz to 10 MHz, ±3 dB (into 50 Ω load)	100 Hz to 20 MHz, ±3 dB (into 50 Ω load)
TRANCE ROTATION		
Adjustment	Adjustable semi-fixed resister on the front panel	
DIMENSIONS / WEIGHT ( ) dimensions include protrusion from basic outline dimensions.		
Width	290 mm (290 mm)	
Height	150 mm (172 mm)	
Depth	390 mm (443 mm)	
Weight	Approx. 6.6 kg	Approx. 6.9 kg
ENVIRONMENTAL		
Within Specifications temp. / hum. range	10 to 35 °C / 85% RH or less	
Full operation temp. / hum. range	0 to 40 °C / 85% RH or less	
ENVIRONMENTAL (Indoor Use Only)		
	Altitude up to 2000 m	
	OVER VOLTAGE CATEGORY II	
	POLLUTION DEGREE 2	
POWER SOURCE		
Line Voltage	AC 100 V / 120 V / 220 V / 230 V, ±10%	
Line Frequency	50 / 60 Hz	
Power Consumption	Max. 30 W	
ACCESSORIES		
Probe (PC-54)	2	
Instruction manual	1	
Power cord	1	
Replacement fuse	1	
REGULATORY INFORMATION		
LVD	EN61010-1 (1993) + A2 (1995)	
EMC	EN61326-1 (1997) + A1 (1998) GROUP1 CLASS B	
	EN61326-1 (1997) + A1 (1998) Min	

■ The above specifications are subject to change without notice.

SAFETY

Before connecting the instrument to a power source, carefully read the following information, then verify that the proper power cord is used and the proper line fuse is installed for power source. The specified voltage is shown on the rear panel. If the power cord is not applied for specified voltage, there is always a certain amount of danger from electric shock.

Line voltage

This instrument operates using ac-power input voltages that 100/120/220/230 V at frequencies from 50 Hz to 60Hz.

Power cord

The ground wire of the 3-wire ac power plug places the chassis and housing of the oscilloscope at earth ground. Do not attempt to defeat the ground wire connection or float the oscilloscope ; to do so may pose a great safety hazard. The appropriate power cord is supplied by an option that is specified when the instrument is ordered.
The optional power cords are shown as follows in Fig.1

Line fuse

The fuse holder is located on the rear panel and contains the line fuse. Verify that the proper fuse is installed by replacing the line fuse.

Voltage conversion

This oscilloscope may be operated from either a 100V to 230V, 50/60 Hz power source. Use the following procedure to change from 100 to 230 volt operation or vice versa.

1. Remove the fuse holder.
2. Replace fuse F1 with a fuse of appropriate value, 1 amp for 100 VAC to 120 VAC operation. 630 m amp for 220 VAC to 230 VAC operation.
3. Reinsert it for appropriate voltage range.
4. When performing the reinsertion of fuse holder for the voltage conversion, the appropriate power cord should be used. (See Fig. 1.)

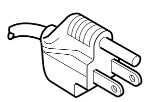
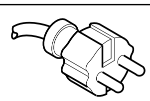
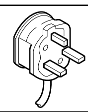
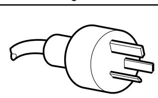
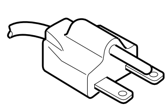
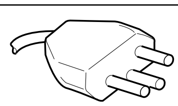
Plug configuration	power cord and plug type	Factory installed instrument fuse	Line cord plug fuse	Parts No. for power cord
	North American 120 volt/60 Hz Rated 15 amp (12 amp max ; NEC)	0.7A, 250V slow blow 5x20mm	None	E30-1951-05
	Universal Europe 220 volt/50 Hz Rated 16 amp	0.3A, 250V slow blow 5x20 mm	None	E30-1952-05
	U.K. 240 volt/50 Hz Rated 5 amp	0.3A, 250V slow blow 5x20 mm	5A Type C	E30-1963-15
	Australian 240 volt/50 Hz Rated 10 amp	0.3A, 250V slow blow 5x20 mm	None	E30-1953-05
	North American 240 volt/60 Hz Rated 15 amp (12 amp max ; NEC)	0.3A, 250V slow blow 5x20mm	None	–
	Switzerland 230 volt/50Hz Rated 10 amp	0.3A, 250V slow blow 5x20 mm	None	–

Fig.1 Power Input Voltage Configuration

CIRCUIT DESCRIPTIONS

Vertical Attenuator Circuit

The attenuators of channel 1 and 2 basically consist of rotary switches and passive elements (resistors, condensers, and trimmer condensers) on PC boards. The resistors have a precision of 0.5% for minimizing any error between the steps of the attenuators.

Vertical input signals from the BNC input receptacle enter the first-stage attenuator circuit, along the path selected by the AC - GND - DC switch. Then they pass through either attenuator 1/1, 1/10, or 1/100, along the path selected by the vertical rotary switch, and become input into the 1st preamplifier (first - stage buffer amplifier).

The 1st preamplifier consists of IC1 (CH2: IC2) hybrid IC. The element used for IC1 features a wide dynamic range and minimized temperature drifting. IC1 functions in the preamplifier as a circuit in which temperature drifting is considered. Input signals, impedance converted in this buffer amplifier, arc sent to the second - stage attenuator where they are passed through either attenuator 1/1, 1/2, 1/4, or 1/10. They are then sent to the vertical amplifier. The second-stage attenuator constitutes a low impedance resistance network with favorable frequency characteristics. The resistors used, as is those of the first stage attenuator, have a precision of 0.5% for minimizing any error between the steps of the attenuators. The rotary switches in this stage include one which increases the gain of the preamplifier to 5-fold when the sensitivity is 1 mV/div or 2 mV/div. IC1 and IC2 have the protection circuit to a large incoming signal.

TC1(51) and TC3(53) are input capacitance regulators for attenuator 1/10 and 1/100, respectively; while TC2(52) and TC4(54) are 1 kHz square wave characteristic regulators for attenuator 1/10 and 1/100. VR1(51) and VR2(52) are step DC balance regulators for attenuators, the former is for user use with adjustment enabled from the front panel.

Vertical Preamplifier Circuit

Signals output from the attenuator circuits are then input into the 2nd preamplifier which consists of a IC3(CH2:IC4) hybrid IC. This IC, with a gain of approximately 12-fold, is an amplifier for suppressing DC level temperature drifting. When the sensitivity is either 1 mV/div or 2 mV/div, the gain is further increased another 5-fold(sum of approximately 60-fold) as a result of the gain resistivity of IC3(CH2:IC4) being switched over by the second attenuator switches S1(CH2:IC4) d and e. VR3(53) is the regulator for the DC offset which occurs during this time. Setting the 5 - fold gain is done by a resistor with a 1% precision and a non-regulated operation is achieved. VR4(54) and VR5(55) are 1 kHz square wave characteristic regulators for the sensitivity of 1 mV/div and 10mV/div. TC501(CH2, TC502) are frequency characteristic regulators. Signals which become sufficiently amplified in the 2nd preamplifier pass through the variable circuit of the vertical axis sensitivity, constituted by the volume of the attenuator rotary switch, and then become input into the 3rd amplifier. The 3rd amplifier is a IC5(CH2:IC6) hybrid IC. Signals input into this amplifier become as complementary signals and are output to the 4th amplifier as electric current signals. The IC contains the CH1(CH2) position circuit, CH2 INV circuit, and CH switch circuit. These are controlled by the CH1(CH2) position volume and CH2 INV switch on the panel unit and the vertical mode switch signals coming from the horizontal side.

VR57 is a sensitivity regulator for CH2 signals while TC6 and TC56 are frequency characteristic regulators for CH1 and CH2, respectively.

CH1(CH2) trigger signals from the 3rd terminal of IC5(CH2:IC6) become amplified in the feedback amplifier in Q16 (19). These trigger signals are converted into electric current signals in Q17 (20) and sent to the trigger source switch on the horizontal side. CH1 trigger signals become amplified between the collector of Q16 and Q18 and in turn become output as CH1 out signals via the emitter follower of Q23. In contrast, CH2 trigger signals become amplified between the collectors in Q19 to Q21, become X - axis signals by being passed through the emitter follower in Q22, converted into electric current signals in VR151 and R182, and in turn output into the horizontal signal switch circuit on the horizontal side. VR151 is the sensitivity regulator of X signals while VR152 is an X position regulator for regulating the DC level of X signals.

The electric current signals which were switched over in the 3rd amplifier are input into the 4th amplifier consisting of Q4 and Q5. After becoming amplified they are directly input into the output amplifier as voltage signals. The 4th amplifier is a feedback amplifier which features minimized fluctuation in the frequency characteristics even when the 3rd amplifiers of CH1 and CH2 are parallel-connected during ADD. Also, the vertical output amplifier can be driven by low output impedance.

Q3 becomes turned on during ADD. The operating current is passed through R103, R104, and VR101 so that the operating current in the 4th amplifier does not become fluctuated when the operating currents from the 3rd amplifiers of CH1 and CH2 flow into the 4th amplifier. VR101 is the ADD balance regulator.

VR102 is the balance regulator of +Y and -Y on the CRT.

Adjustment is made so that the luminescent line comes to the center of the CRT.

Vertical Output Amplifier Circuit

Signals output from the 4th amplifier are amplified about 45 - fold in the output amplifier, Q6 through Q15, and drive the Y deflecting plate of the CRT.

This output amplifier is a feedback amplifier. The final stage Q12 and Q14 are driven by complimentary emitter followers Q8 and Q10, Q9 and Q11, respectively. By doing so, the linearity of the first and last transition high frequencies is improved and the input impedance is made higher. Q13 and Q15 work to obtain sufficient gain during constant current loss in Q12 and Q14, respectively. Negative feedback is sufficiently applied as well. Consequently, this circuit achieves low impedance output of large amplitude signals with good linearity.

VR103 is a sensitivity regulator based on CH1 signals for the entire vertical amplifier. TC101 is a frequency characteristic regulator for the entire vertical amplifier in general and for the output amplifier in particular. VR104

is the operating point voltage regulator for the output amplifier.

Horizontal System

The horizontal system can be roughly divided into the trigger circuit, sweep circuit, output circuit, and blanking circuit. The TRIG SOURCE switch on the panel unit drives trigger sources switch circuits IC207 (hybrid IC), D202-D205, and Q202. Desired trigger signals can be elected. The trigger source switch circuit is connected to an input buffer for trigger signals from each channel coming from the vertical amplifier, line trigger signals from the power source system, and external synchronizing signals generated in Q201.
Selected synchronizing signals are sent to the trigger level setting circuits Q203 - Q206 and IC202c via the emitter follower in Q203. The trigger level setting circuit constitutes a Schmitt circuit and its threshold level can be adjusted by VOLUME for trigger level setting on the panel unit. The trigger level becomes fixed voltage when the switch in the MODE of a panel side is a fix trigger. VR250 is adjusted so that trigger may start a voltage value in the center of sin wave only at the time of fix.
Selected synchronizing signals are sent to Q207 - Q211 for video - sync separation via C206, Q207, D206 and D207 are polarity switch circuits and Q209 is a sync tip clamper. Q211 is a switch circuit for vertical synch-ronizing signal separation.
Either ordinary synchronizing signals or video - sync signals become selected at IC202a. IC203a, for MODE switch selecting on the panel unit and the sweep gate flip - flop becomes activated.
Gate signals from IC204b, IC205b turn Q221 ON/OFF in both AUTO and NORM modes and control the sweep HIC in IC201. The interior of IC201 comprises a constant - current charged type ramp wave generating circuit and its time constant becomes determined by an S201 code and C215 or C216. If the S201 code is below 1 ms/div, the time constant adjustment circuit in Q219 becomes activated and VR201 contributes in determining the time constant as well.
If there are no trigger signals during the AUTO mode, the AUTO circuits in Q212-Q215 work and generate sweep gates automatically.
IC201 does not generate ramp waves as the sweep gate become shut by IC205b in the X - Y mode.
Q216 - Q218, Q511, IC205c and IC205d determine the upper limit and hold off time of ramp waves.
Ramp waves from IC201 become output as sweep signals via Q222. Sweep signals and X - axis signals, the latter from the vertical system, become selected by switching circuit Q223, Q224, Q226, and Q227. They are then applied to output systems after Q301.

Horizontal Output Circuit

When horizontal signals are input into Q301 and voltage signals, corresponding to the horizontal position, are input into Q302, differential signals become generated by the collectors in Q307 and Q308, Q309 and Q310. Q303 - Q310 are feedback amplifiers for constant - current load. They constitute horizontal output amplifiers which feature good linearity and low power consumption. Q315 and Q316 become conductive during X10MAG and increase the horizontal amplifier gain to 10 - fold.
Signals from the horizontal output amplifier are sent to the horizontal deflecting plate of the CRT.

Blanking Circuit

Blanking system circuits generate blanking signals for the CRT and signals which switch each channel in the vertical system. The selected signals are divided into 1/2 in IC204b, which is T - shaped flip - flop connected, and become channel switching signals.
In contrast, signals from the CHOP transmitter and sweep gate negative - phase signals (IC204b Q - signals) are turned into blanking signals in Q230 and IC205a. They are then sent to the blanking amplifier in the power supply system.

Chop Circuit

A CHOP transmitter constitutes IC206a and IC206b. CHOP circuit operates, only when a setup of a panel unit is CHOP sweep.

VERT MODE Circuit

Signals from the CHOP transmitter and sweep gate signals become selected at IC202b, IC203b, whereby CHOP signals are selected during a CHOP operation, while sweep gate signals are selected during an ACT operation. IC204a outputs the change signal of vertical amplifier according to the signal from IC203b, and the state of a setup of a panel unit.

Low Voltage Circuit

[CS-4125A]
The power supply consists of four regulated circuits and two non - regulated circuits. IC1 constitutes an HIC for controlling 4 circuit lines consisting of those for +8 V(Q4, D4), -8 V(Q5, D5), +140 V(Q1, Q2, D3), +5 V(Q3), each voltage becomes determined based on -8 V. VR1 adjusts to -8 V. The +10 V circuits, D6 and C10, are unstable and constitute a power source for the horizontal sweep HIC. The ±10 V generated with D2, C2 and C3 is a non-regulated power which is supplied to high - voltage oscillation circuit and trance rotation circuit.
[CS-4135A]
The power supply consists of five regulated circuits and two non-regulated circuits. IC1 constitutes an HIC for controlling 4 circuit lines consisting of those for +8 V(Q4, D4), -8 V(Q5, D5), +140 V(Q1, Q2, D3), +5 V(Q3), each voltage becomes determined based on -8 V. VR1 adjusts to -8V . The +80 V power is generated by Q31 to Q33 using the +8 voltage as the reference. The +10 V circuits, D6 and C10, are unstable and constitute a power source for the horizontal sweep HIC. The ±10 V generated with D2, C2 and C3 is a non-regulated power which is supplied to the scale illumination circuit, high-voltage oscillation circuit and trance rotation circuit.

CIRCUIT DESCRIPTIONS

High Voltage Blanking Circuit
Q8 oscillates at approximately 50 kHz applying the reactance of the converter transformer. The oscillation voltage appearing in the high voltage coil are turned into stable.

[CS-4125A)

The oscillation voltage appearing in the high-voltage coil are turned into stable -1800 V in the voltage doubler rectifier circuits C25, C26, D9, and D10, and in rectifier circuits Q9 and IC2a.

[CS-4135A]

The oscillation voltage appearing in the high - voltage coil is subjected half - wave rectification then turned into regulated -1500 V by the control circuit formed of Q9 and IC2a.

The voltage across the anode and cathode is about 12 kV.

[both]

On the secondary side of the converter transformer, there is the coil for the CRT heater for turning the heater on via R52.

Voltage signals, approximately 300 V peak to peak, become extracted from the high voltage coil and used as modulated signals for blanking. This is necessary for employing signals from blanking amplifiers Q15, Q6, and Q7 for the cathode potential.

The modulated signals drive the DC regeneration circuits, D11 - D14, C23 and C24, and provide signals for controlling the brightness of the CRT G1 electrode.

Q10 - 12 are transistors for controlling the focus and they achieve high pressure resistance by being cascade connected.

CAL Circuit
[CS-4125A]

IC71a is a transmitter. Oscillation frequency is decided by surrounding CR. Q71 is the signal outputted from a transmitter, and is the transistor which switch. Output level is decided by voltage of R82, D71, R83, and +140 V when Q71 is OFF.

[CS-4135A]

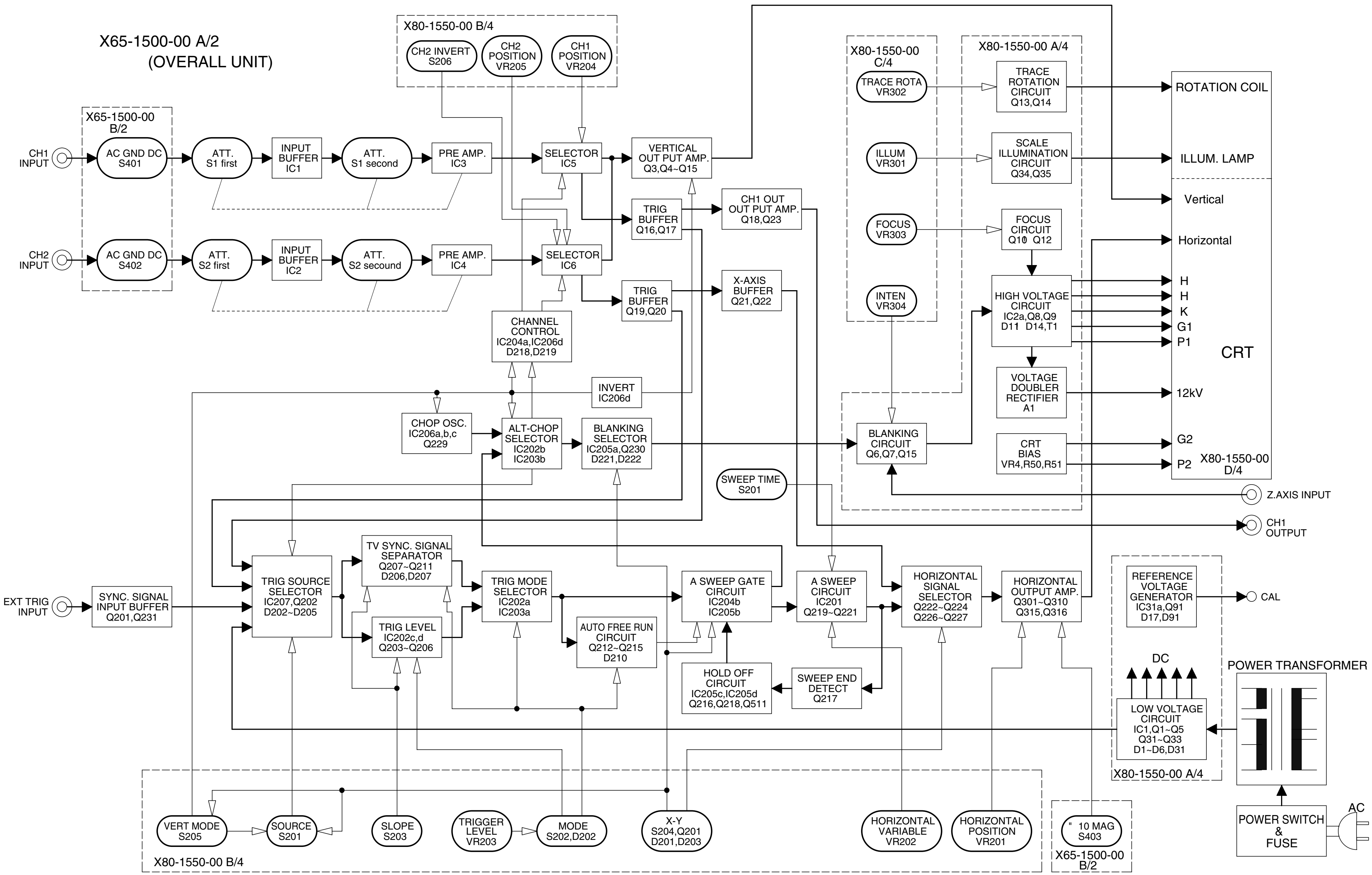
IC31a is a transmitter. Oscillation frequency is decided by surrounding CR. Q91 is the signal outputted from a transmitter, and is the transistor which switch. Output level is decided by voltage of R72, D91, R73, and +140 V when Q91 is OFF.

Trance Rotation Circuit
This circuit consists of a complementary circuit formed with Q13 and Q14 and drives the rotator coil located on the CRT cone by means of the current from their common emitter.

Scale Illumination Circuit
[CS-4135A]

Q34 and Q35, which are connected in parallel, handles the current flowing through the illumination lamps. They vary the scale illumination VR connected to their common base to control the brightness of the illumination lamps.

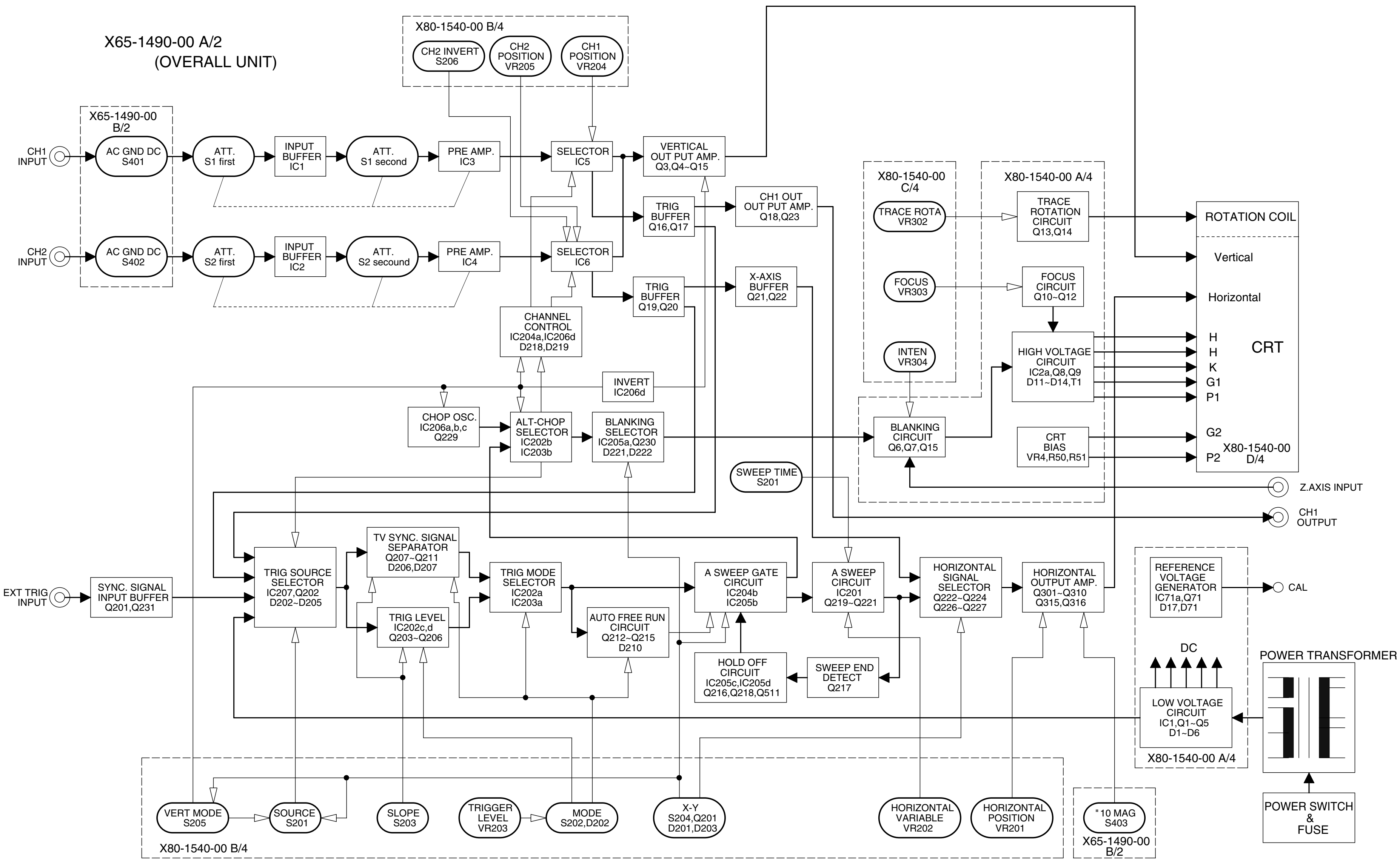
CS-4135A BLOCK DIAGRAM



BLOCK DIAGRAM

CS-4125A/CS-4135A

CS-4125A BLOCK DIAGRAM



CS-4125A/CS-4135A
BLOCK DIAGRAM

ADJUSTMENT

To obtain the best performance, periodically calibrate the unit. Sometimes, only one mode need be calibrated, while at other times, all modes should be calibrated. When one mode is calibrated, it must be noted that the other modes may be affected. When calibrating all modes, perform the calibration in the specified sequence.
The following calibration required an accurate measuring instrument and an insulated adjusting flat blade screwdriver. If they are not available, contact your dealer. For optimum adjustment, turn the power on and warm up the scope sufficiently (more than 30 minutes) before starting. Before calibrating the scope, check the power supply voltage.

TEST EQUIPMENT REQUIRED

The following instrument or their equivalent should be used for making adjustment.

Test Equipment	Model
Digital Multi Meter	45 (FLUKE)
Pulse generator	PG-506 (Tektronix)
Time Marker	TG-501 (Tektronix)
Sine-wave Generator (1)	SG-503 (Tektronix)
Sine-wave Generator (2)	SG-502 (Tektronix)
Square Wave Generator	211B (HP)
Capacitance meter	3520 (HIOKI)
Oscilloscope	2465B (Tektronix)
Pattern generator	CG-911 (KENWOOD TMI)
Frequency counter	FC-756 (KENWOOD TMI)
CASE JIG	CASE JIGU 20M (KENWOOD TMI or H/C)

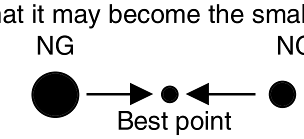
PREPARATION FOR ADJUSTMENT

Control Settings

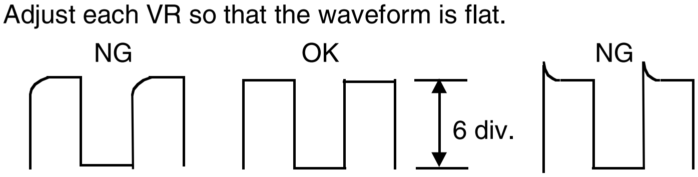
The control settings listed below must be used for each adjustment procedure.
Exceptions to these settings will be noted as they occur.
After completing a adjustment, return the controls to the following setting.

NAME OF KNOBS	POSITION
MODE	AUTO
X-Y	OFF
SOURCE	VERT
VERT MODE	CH1
CH2 INVERT	OFF
SLOPE	OFF (+)
TRIGGER LEVEL	12 O'clock
V.POSITION	12 O'clock (both CH1, 2)
VOLTS/DIV	10mV (both CH1, 2)
VOLTS VARIABLE	CAL (both CH1, 2)
AC-GND-DC	DC (both CH1, 2)
H. POSITION	12 O'clock
SWEEP TIME VARIABLE	CAL
SWEEP TIME/DIV	0.1ms
SWEEP TIME/DIV MAG (x10)	OFF

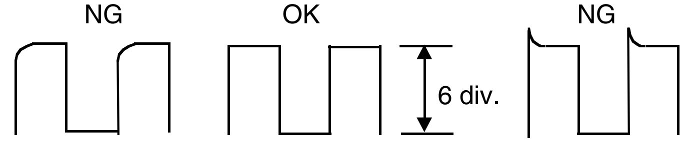
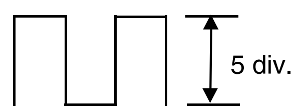
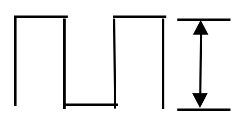
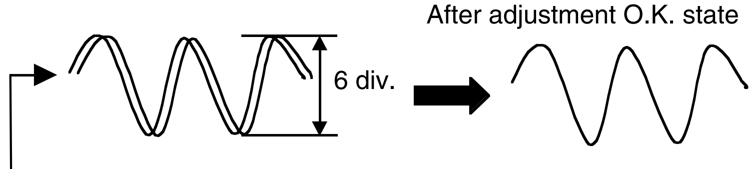
ADJUSTMENT

	Item	Adjustment point	Procedure
1	-8 V	VR1 [CS-4125A] X80-1540 [CS-4135A] X80-1550	[CS-4125A] The probe of multi-meter is applied to the CN8-4 (20M) of a power supply unit, and it adjusts so that it may be set to –8.00 V. [CS-4135A] The probe of multi-meter is applied to the CN11-6 (40 M) of a power supply unit, and it adjusts so that it may be set to –8.00 V. Adjustment range: -8.00 V to –8.05 V
2	CRT center	VR102 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO VOLTS/DIV : 50mV (both CH) VERT MODE : CH2 VOLTS VARIABLE : CAL (both CH) AC-GND-DC : GND 1) CH2 INVERT is turned ON-OFF and the position which luminescent line does not move is looked for by CH2 POSITION. 2) CH2 POSITION leaves as it is and adjusts luminescent line in the scale center of CRT by VR102.
3	Operating point voltage of vertical amplifier	VR104 [CS-4125A] X65-1490 [CS-4135A] X65-1500	[CS-4125A] Adjust luminescent line to a CRT center. In the state of two clauses, a main part is adjusted by VR104 so that the voltage of CN6-1 may be set to 67.00 V. [CS-4135A] Adjust luminescent line to a CRT center. In the state of two clauses, a main part is adjusted by VR104 so that the voltage of CN6-1 may be set to 37.50 V. Adjustment range: [CS-4125A] 66.95 V to 67.05 V [CS-4135A] 37.45 V to 37.55 V *1. Carry out and adjust SWEEP TIME to 1ms in the state of sweep. *2. Make it short-circuit, measure and adjust CN6-1 and 4.
4	Operating point voltage of horizontal amplifier	VR301 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO VOLTS/DIV : 50 mV (both CH) VERT MODE : CH1 X-Y : ON AC-GND-DC : GND 1) Move the spot to the CRT center by operating the H.POSITION controls. 2) It adjusts by VR301 so that the voltage of CN7-1 may be set to 68.00 V. Adjustment range: 67.95 V to 68.05 V * Make it short-circuit, measure and adjustment CN7-1 and 3.
5	ASTIG	VR4 [CS-4125A] X80-1540 [CS-4135A] X80-1550	FOUCUS : 12 o’clock X-Y : ON A FOUCUS knob is the state at 12:00 position, and it adjusted by VR4 so that it may become the smallest about spot. 
6	FOUCUS center	VR3 [CS-4125A] X80-1540 [CS-4135A] X80-1550	FOUCUS : 12 o’clock X-Y : ON A FOUCUS knob is the state at 12:00 position, and it adjusted by VR3 so that it may become the smallest about spot.

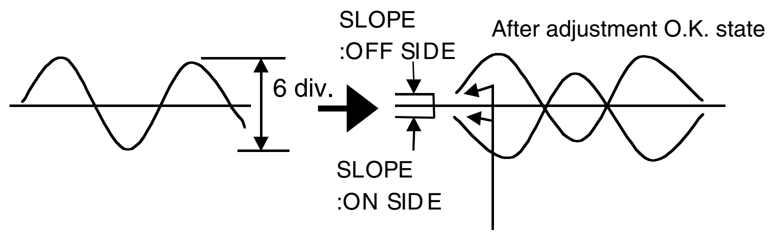
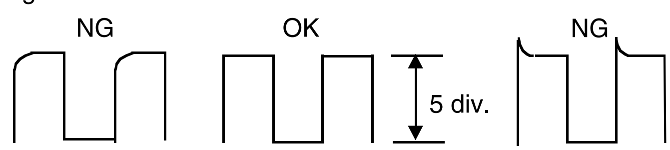
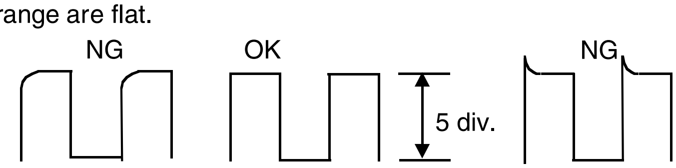
ADJUSTMENT

	Item	Adjustment point	Procedure
7	INTEN	VR2 CS-4125A] X80-1540 [CS-4135A] X80-1550	X-Y: ON 1) Spot is displayed on CRT and INTEN knob is made the position at 9:00. 2) Adjust VR2 so that spot may disappear in the position at 9:00.
8	CH1 STEP ATT BALANCE (CH1 1 mV to 2 mV)	VR2 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : GND VERT MODE : CH1 VOLTS/DIV : 2 mV Adjust VR2 so that the luminescent line does not move when VOLTS is switched from 1 mV to 2 mV. * On the basis of 2 mV, it adjusts at the 1 mV time. * CH1 STEP ATT BALANCE VR is united with a center. (mechanical)
9	CH1 STEP ATT BALANCE (CH1 2 mV to 5 mV)	VR3 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : GND VERT MODE : CH1 VOLTS/DIV : 5 mV Adjust VR3 so that the luminescent line does not move when VOLTS is switched from 2 mV to 5mV. * On the basis of 5 mV, it adjusts at the 2 mV time. * Don’t touch CH1 STEP ATT BALANCE VR performed by 8 clauses.
10	CH2 STEP ATT BALANCE (CH2 1 mV to 2mV)	VR52 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : GND VERT MODE : CH2 VOLTS/DIV : 2 mV Adjust VR52 so that the luminescent line does not move when VOLTS is switched from 1 mV to 2 mV. * On the basis of 2 mV, it adjusts at the 1 mV time. * CH2 STEP ATT BALANCE VR is united with a center. (mechanical)
11	CH2 STEP ATT BALANCE (CH2 2mV to 5 mV)	VR53 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : GND VERT MODE : CH2 VOLTS/DIV : 5 mV Adjust VR53 so that the luminescent line does not move when VOLTS is switched from 2 mV to 5 mV. * On the basis of 5 mV, it adjusts at the 2 mV time. * Don’t touch VR of CH2 STEP ATT BALANCE performed by 10 clauses.
12	ADD POSI	VR101 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : GND (both CH) VERT MODE : ALT VOLTS/DIV : 10 mV (both CH) 1) In the state of ALT, luminescent line of CH1 and CH2 is united in the center of CRT by V. POSITION. 2) VERT MODE is switched to ADD, and it adjusts by VR101 so that luminescent line may become in the center.
13	CH1 10 mV, 1 mV Square wave	10 mV: VR5 1 mV: VR4 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 VOLTS/DIV : 10 mV, 1 mV SWEEP TIME : 0.5 ms 1) Input a 1 kHz square wave signal to the CH1 INPUT (6 div. input) 2) Adjust each VR so that the waveform is flat. 

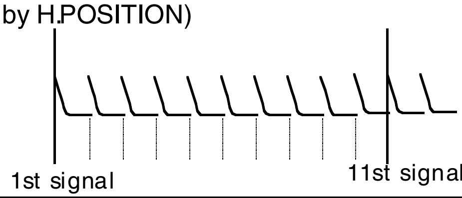
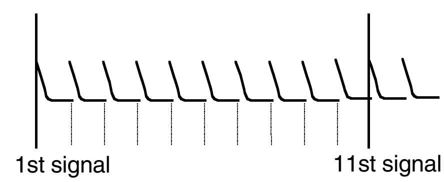
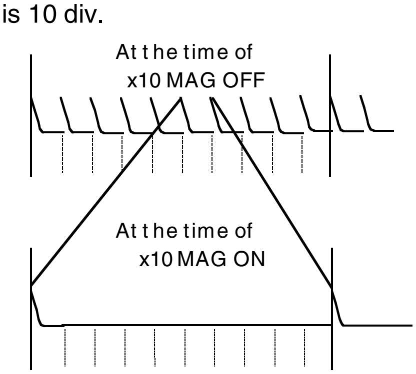
ADJUSTMENT

	Item	Adjustment point	Procedure
14	CH2 10 mV, 1 mV Square wave	10 mV: VR55 1 mV: VR54 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH2 VOLTS/DIV : 10 mV, 1 mV SWEEP TIME : 0.5 ms 1) Input a 1 kHz square wave signal to the CH2 INPUT. (6 div. input) 2) Adjust each VR so that the waveform is flat. 
15	CH1 V. GAIN	VR103 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 VOLTS/DIV : 20 mV SOURCE : VERT VOLTS VARIABLE : CAL 1) Input 1 kHz and 100 mV square wave signal to the CH1 INPUT. 2) Adjust VR103 so that the amplitude is 5div. (20 mV) 
16	CH2 V. GAIN	VR57 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH2 VOLTS/DIV : 20 mV SOURCE : VERT VOLTS VARIABLE : CAL 1) Input 1 kHz and 100 mV square wave signal to the CH2 INPUT. 2) Adjust VR57 so that the amplitude is 5 div. (20 mV) 
17	CH1, 2 TRIG level	VR6 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : AC VERT MODE : ALT VOLTS/DIV : 10 mV SOURCE : VERT VOLTS VARIABLE : CAL 1) 1 kHz and 6 div. sine wave are inputted into CH1 and CH2 INPUT. 2) AC-GND-DC is set to GND, V. POSITION is adjusted so that luminescent line of CH1 and CH2 may overlap, and AC-GND-DC is set to AC. 3) VR6 is adjusted so that the starting point of the waveform of CH1 and CH2 may overlap. 

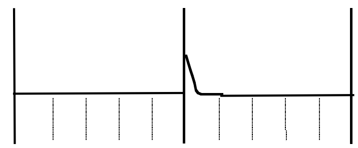
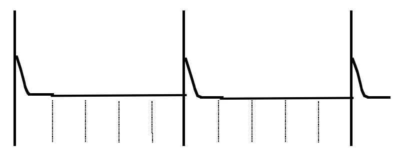
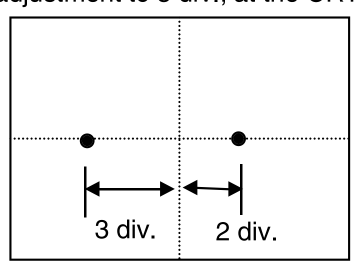
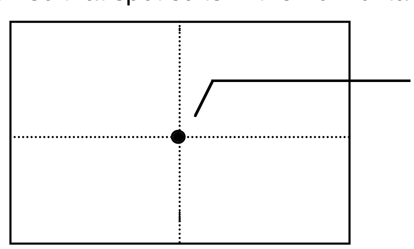
ADJUSTMENT

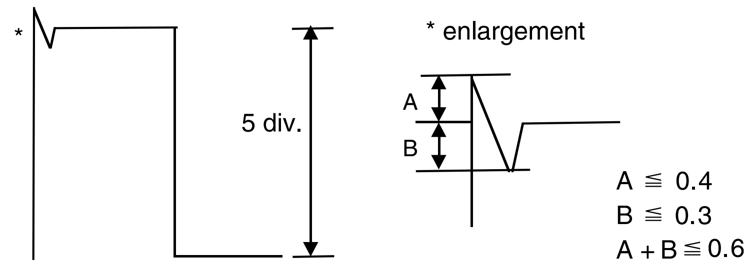
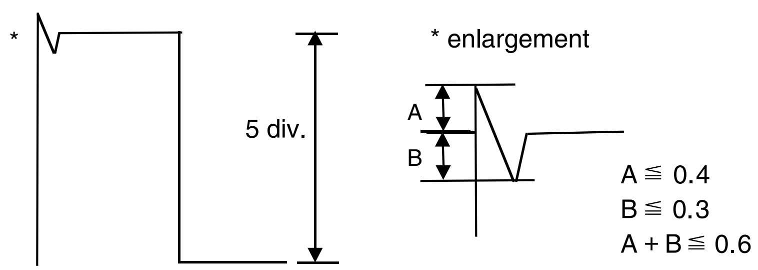
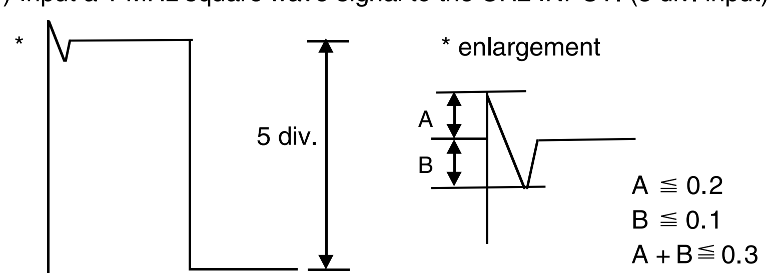
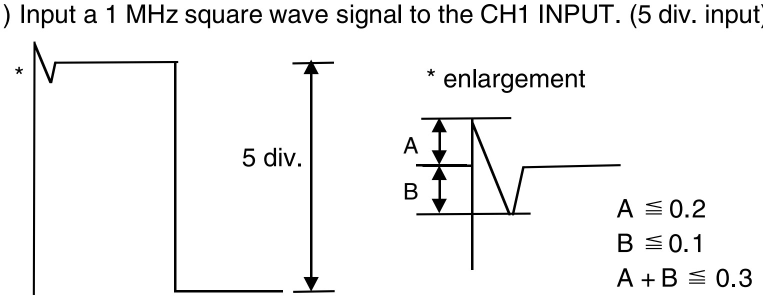
	Item	Adjustment point	Procedure
18	FIX TRIG level	VR250 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : FIX AC-GND-DC : AC VERT MODE : CH1 VOLTS/DIV : 10 mV SOURCE : VERT VOLTS VARIABLE : CAL SLOPE : + (OFF) -(ON) 1) MODE is set to AUTO, AC-GND-DC is set to GND, and set the luminescent line to the center of the scale of CRT by operating V.POSITION. 2) AC-GND-DC is set to AC and sine wave of 1 kHz and 6 div. is inputted into CH1 INPUT. 3) When MODE is set to FIX and wavelike starting point level changes SLOPE ON/OFF, it adjusts by VR250 so that the width from the center of a CRT scale may become equal.  The starting point here is SLOPE: When ON and OFF are changed, it unites so that the width from a CRT scale center may become equal.
19	CH1 waveform shaping	0.1 V : TC2 1 V : TC4 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 VOLTS/DIV : 10 mV(Ideal waveform) SOURCE : VERT VOLTS VARIABLE : CAL 1) Input a 1 kHz square wave signal to the CH1 INPUT. (5 div. input) 2) Adjust each TC so that the waveforms at 0.1 V range and 1 V range are flat. 
20	CH2 waveform shaping	0.1 V : TC52 1 V : TC54 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH2 VOLTS/DIV : 10 mV(Ideal waveform) SOURCE : VERT VOLTS VARIABLE : CAL 1) Input a 1 kHz square wave signal to the CH2 INPUT. (5 div. input) 2) Adjust each TC so that the waveforms at 0.1 V range and 1 V range are flat. 
21	CH1 input capacity	0.1 V : TC1 1V : TC3 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 VOLTS/DIV : 10 mV (standard) SOURCE : VERT VOLTS VARIABLE : CAL 1) Connect a capacity meter to the CH1 INPUT. 2) Measure the capacity of the 10 mV range. (Less than 24 pF ±3 pF) 3) At 0.1 V and 1 V adjust each TC to obtain the same values as 10 mV.

ADJUSTMENT

	Item	Adjustment point	Procedure
22	CH2 input capacity	0.1 V : TC51 1 V : TC53 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH2 VOLTS/DIV : 10 mV (standard) SOURCE : VERT VOLTS VARIABLE : CAL 1) Connect a capacity meter to the CH2 INPUT. 2) Measure the capacity of the 10 mV range. (Less than 24 pF ±3pF) 3) At 0.1 V and 1 V adjust each TC to obtain the same value as 10mV.
23	SWEEP TIME (0.1 ms)	VR202 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 SWEEP TIME/DIV : 0.1 ms SOURCE : VERT H. VARIABLE : CAL 1) Input a 0.1 ms marker signal to the CH1 INPUT. 2) Adjust VR202 so that the marker peak and scale coincides at every div. (Since a marker signal moves horizontally at this time, operate it by H.POSITION) 
24	SWEEP TIME (2 ms)	VR201 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 SWEEP TIME/DIV : 2 ms SOURCE : VERT H. VARIABLE : CAL 1) Input a 2 ms marker signal to the CH1 INPUT. 2) Adjust VR201 so that the marker peak and scale coincides at every div. (Since a marker signal moves horizontally at this time, operate it by H.POSITION.) 
25	MAG GAIN	VR302 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO AC-GND-DC : DC VERT MODE : CH1 SWEEP TIME/DIV : 0.1 ms SOURCE : VERT H. VARIABLE : CAL 1) Input a 0.1 ms marker signal to the CH1 INPUT. 2) Adjust so that the marker peak and scale coincides at every div. operating by H.POSITION. 3) x10 MAG switch is ON and adjust VR302 so that the interval between two peaks is 10 div. 

ADJUSTMENT

	Item	Adjustment point	Procedure
26	MAG center	VR303 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO / AC-GND-DC : DC VERT MODE : CH1 / SWEEP TIME/DIV : 0.1 ms SOURCE : VERT / H. VARIABLE : CAL x 10 MAG : ON 1) Input a 0.5 ms marker signal to the CH1 INPUT. 2) Adjust H.POSITION so that the center peak is aligned with the vertical scale center. 3) x 10 MAG switches OFF, and adjust VR303 so that the center peak of marker signal is aligned with vertical scale center. * Since a gap arises, adjust twice. At the time of x10 MAG ON  At the time of x10 MAG OFF 
27	X. GAIN	VR151 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO / CH2 AC-GND-DC : AC VERT MODE : CH2 / CH2 VOLTS/DIV : 10 mV SOURCE : VERT / H. VARIABLE : CAL X-Y : ON 1) Input a 50 mV square wave signal to the CH2 INPUT. 2) VR151 is adjusted so that amplitude may be set to 5 div. * Make the adjustment to 5 div., at the CRT center. 
28	X. POSITION	VR152 [CS-4125A] X65-1490 [CS-4135A] X65-1500	MODE : AUTO / AC-GND-DC : AC (both CH) VERT MODE : CH1 / V. POSITION : 12 o'clock (both CH) SOURCE : VERT / H. POSITION : 12 o'clock X-Y : ON Adjust VR152 so that spot suits in the horizontal center of a scale.  Adjust spot to suit the center of a CRT scale.

	Item	Adjustment point	Procedure
29	CH2 square wave characteristic [CS-4135A] * Use of a 50 Ω terminus machine.	TC56 TC101 TC 502 X65-1500	MODE : AUTO AC-GND-DC : DC (both CH) VERT MODE : CH2 VOLTS/DIV : 10 mV (both CH) SOURCE : VERT V. VARIABLE : CAL (both CH) 1) Input a 1 MHz square wave signal to the CH2 INPUT. (5 div. input) 
30	CH1 square wave characteristic [CS-4135A] * Use of a 50 Ω terminus machine.	TC6 TC501 X65-1500	MODE : AUTO AC-GND-DC : DC (both CH) VERT MODE : CH1 VOLTS/DIV : 10 mV (both CH) SOURCE : VERT V. VARIABLE : CAL (both CH) 1) Input a 1 MHz square wave signal to the CH1 INPUT. (5 div. input) 
31	CH2 square wave characteristic [CS-4125A] * Use of a 50 Ω terminus machine.	TC56 TC101 X65-1490	MODE : AUTO AC-GND-DC : DC (both CH) VERT MODE : CH2 VOLTS/DIV : 10 mV (both CH) SOURCE : VERT V. VARIABLE : CAL (both CH) 1) Input a 1 MHz square wave signal to the CH2 INPUT. (5 div. input) 
32	CH1 square wave characteristic [CS-4125A] * Use of a 50 Ω terminus machine.	TC6 X65-1490	MODE : AUTO AC-GND-DC : DC (both CH) VERT MODE : CH1 VOLTS/DIV : 10 mV (both CH) SOURCE : VERT V. VARIABLE : CAL (both CH) 1) Input a 1 MHz square wave signal to the CH1 INPUT. (5 div. input) 

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Teile ohne **Parts No.** werden nicht geliefert.

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Ref. No	Parts No.	Name & Description
		CS-4125A (Y70-2420-00)
	150BTB31KT	CRT
	A01-4132-02	CASE; TOP
	A10-1458-32	CHASSIS; BOTTOM
	A13-0946-22	FRAME; CENTER
	A13-0947-13	FRAME; FRONT
	A40-0715-03	CACE; BOTTOM
	A63-0436-01	MOLD PANEL
	A83-0236-12	REAR PANEL
	B11-0540-04	FILTER
	B41-2061-04	CAUTION LABE, FOR REAR PANEL; INNER SIDE
	B41-2086-04	CAUTION LABEL, FOR CASE
	B42-3819-05	SERIAL NO. PLATE
	B42-6230-05	LABEL, FOR CARTON BOX
	B42-6240-04	LABEL; MADE IN CHINA
	B63-0561-18	INSTRUCTION MANUAL; JAPANESE
	B63-0562-18	INSTRUCTION MANUAL; ENGLISH
	E04-0524-08	BNC RECEPTACLE
	E21-0686-04	TERMINAL; CAL
	E30-1950-05	JIS POWER CORD
	E30-1951-05	UL/CSA POWER CORD
	E30-1952-05	CEE POWER CORD
	E30-1953-05	SAA POWER CORD
	E30-1963-15	BS POWER CORD
	E68-0619-05	AC SELECTOR
	F05-2518-05	FUSE(5*20) 0.25A/250V
	F05-4016-05	FUSE(5*20) T0.4A/250V
	F11-1563-04	CRT SHIELD
	G10-0805-04	FELT, FOR CRT SHIELD (LONG)
	G10-0806-04	FELT, FOR CRT SHIELD (SHORT)
	G16-0622-04	SHEET
	H12-3257-18	FOAMED STYREN PAD; FRONT
	H12-3258-18	FOAMED STYREN PAD; REAR
	H20-1727-04	VINYL COVER
	H53-0374-03	CARTON BOX
	J02-0524-04	TILT STAND
	J02-0525-33	RUBBER FOOT; FRONT
	J02-0565-04	RUBBER FOOT; REAR
	J19-1653-23	HOLDER; CRT
	J21-4695-13	BRACKET; CRT FOR FRONT
	J21-4696-04	BRACKET; POWER SWITCH
	J21-4737-14	BRACKET; COMPLEX UNIT B/4
	K01-0571-08	HANDLE
	K24-3028-03	PUSH KNOB (5 USED)
	K27-3683-04	KNOB; LEVER (5 USED)
	K29-7253-03	KNOB; SWEEP TIME
	K29-7254-03	KNOB; VARIABLE (2 USED, SMALL)
	K29-7255-03	KNOB; VOLUME (8 USED)
	K29-7256-03	KNOB; VARIABLE (2 USED, LARGE)
	L07-1585-05	POWER TRANSFORMER
	L39-1416-08	ROTATION COIL

L : Scandinavia **K :** USA **P :** Canada **R :** Mexico
Y : PX(Far East,Hawaii) **T :** England **E :** Europe **G :** Germany
Y : AAFES(Europe) **X :** Australia **M :** Other Areas ⚠ indicates safety critical components .

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Ref. No	Parts No.	Name & Description
	LN322GP	LED; GREEN
	N09-0739-05	SCREW, SEMS PAN HD TAPTITE (M3*8)
	N10-2040-41	HEXAGON NUT (M4)
	N11-0040-41	FLANGE NUT (M4)
	N19-0753-05	TOOTHED LOCK WASHER (M4)
	N30-4012-41	SCREW, PAN HD (M4*12)
	N33-4016-41	SCREW, OVAL HD (M4*16)
	N66-4012-41	SCREW, SEMS PAN HD (M4*12)
	N67-3006-41	SCREW, SEMS PAN HD (M3*6)
	N88-3008-41	SCREW, FLAT HD TAPTITE (M3*8)
	N89-3006-41	SCREW, BINDING TAPTITE (M3*6)
	N89-3010-41	SCREW, BINDING TAPTITE (M3*10)
	S68-0687-05	POWER SWITCH
	W01-0529-08	CORD WRAP
	X65-1490-00	OVERALL UNIT
	X80-1540-00	COMPLEX UNIT

L : Scandinavia **K :** USA **P :** Canada **R :** Mexico
Y : PX(Far East,Hawaii) **T :** England **E :** Europe **G :** Germany
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Ref. No	Parts No.	Name & Description
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	150JKM31	CRT
	A01-4132-02	CASE; TOP
	A10-1458-32	CHASSIS; BOTTOM
	A13-0946-22	FRAME; CENTER
	A13-0947-13	FRAME; FRONT
	A33-0506-03	REFLECTING PLATE
	A40-0715-03	CACE, BOTTOM
	A63-0437-01	MOLD PANEL
	A83-0236-12	REAR PANEL
	B11-0540-04	FILTER
	B30-0925-05	LAMP
	B30-0996-05	LAMP ASSY
	B41-0710-14	CAUTION LABEL, FOR CRT
	B41-2086-04	CAUTION LABEL, FOR CASE
	B42-3819-05	SERIAL NO. PLATE
	B42-6230-05	LABEL, FOR CARTON BOX
	B42-6240-04	LABEL; MADE IN CHINA
	B63-0561-18	INSTRUCTION MANUAL (JAPANESE)
	B63-0562-18	INSTRUCTION MANUAL (ENGLISH)
	E04-0524-08	BNC RECEPTACLE
	E21-0686-04	TERMINAL; CAL
	E23-0552-04	EARTH PLATE
	E30-1950-05	JIS POWER CORD
	E30-1951-05	UL/CSA POWER CORD
	E30-1952-05	CEE POWER CORD
	E30-1953-05	SAA POWER CORD
	E30-1963-15	BS POWER CORD
	E68-0619-05	AC SELECTOR
	F05-2518-05	FUSE(5*20) T0.25A/250V
	F05-4016-05	FUSE(5*20) T0.4A/250V
	F10-1645-04	SHIELD PLATE
	F11-1206-13	CRT SHIELD
	F15-0733-04	FELT, CRT SHIELD
	H12-3257-18	FOAMED STYREN PAD; FRONT
	H12-3258-18	FOAMED STYREN PAD; REAR
	H20-1727-04	VINYL COVER
	H53-0374-03	CARTON BOX
	J02-0524-04	TILT STAND
	J02-0525-33	RUBBER FOOT; FRONT
	J02-0565-04	RUBBER FOOT; REAR
	J19-1653-23	HOLDER; CRT
	J21-4695-13	BRACKET; CRT FOR FRONT
	J21-4696-04	BRACKET; POWER SWITCH
	J21-4736-03	BRACKET; CRT FOR REAR
	J21-4737-14	BRACKET; COMPLEX UNIT B/4
	J25-5267-05	PCB (UNMOUNTED); LAMP
	J59-0403-05	NYLON RIVET
	K01-0571-08	HANDLE
	K24-3028-03	PUSH KNOB (5 USED)
	K27-3683-04	KNOB; LEVER (5 USED)
	K29-7253-03	KNOB; SWEEP TIME
	K29-7254-03	KNOB; VARIABLE (2 USED, SMALL)

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	K29-7255-03	KNOB; VOLUME (8 USED)
	K29-7256-03	KNOB; VARIABLE (2 USED, LARGE)
	L07-1586-05	POWER TRANSFORMER
	L39-1417-08	ROTATION COIL
	LN322GP	LED; GREEN
	N09-0739-05	SCREW, SEMS PAN HD TAPTITE (M3*8)
	N10-2040-41	HEXAGON NUT (M4)
	N11-0040-41	FLANGE NUT (M4)
	N19-0753-05	TOOTHED LOCK WASHER (M4)
	N30-4012-41	SCREW, PAN HD (M4*12)
	N33-4016-41	SCREW, OVAL HD (M4*16)
	N66-4012-41	SCREW, SEMS PAN HD (M4*12)
	N67-3006-41	SCREW, SEMS PAN HD (M3*6)
	N88-3008-41	SCREW, FLAT HD TAPTITE (M3*8)
	N89-3006-41	SCREW, BINDING TAPTITE (M3*6)
	N89-3010-41	SCREW, BINDING TAPTITE (M3*10)
	S68-0687-05	POWER SWITCH
	W01-0529-08	CORD WRAP
	X65-1500-00	OVERALL UNIT
	X80-1550-00	COMPLEX UNIT

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Ref. No	Parts No.	Name & Description			
CS-4125A OVERALL UNIT (X65-1490-00)					
	A22-0878-13	SUB PANEL			
	E04-0259-15	BNC TERMINAL			
	E21-0834-08	GROUND TERMINAL			
	E31-2170-05	JUMPER WIRE	0		
	F01-2410-08	HEAT SINK (A)			
	F10-1628-14	SHIELD PLATE			
	F10-2591-04	SHIELD PLATE			
	J19-1719-04	HOLDER; WIRE			
	J73-0796-02	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS PAN HD (M3*10)			
	N89-3006-41	SCREW, BINDING TAPTITE (3*6)			
C1	C91-2591-05	CAP. CERAMIC	33p	5%	50V
C2	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C3	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C4	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C6	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C7	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C8	C91-1231-05	CAP. CERAMIC	4.7p	10%	50V
C9	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C10	CC45FCH1H221J	CAP. CERAMIC	220p	5%	50V
C11	CC45FCH1H390J	CAP. CERAMIC	39p	5%	50V
C12	CC45FCH1H070D	CAP. CERAMIC	7p	0.5p	50V
C13	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C14	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C51	C91-2591-05	CAP. CERAMIC	33p	5%	50V
C52	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C53	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C54	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C56	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C57	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C58	C91-1231-05	CAP. CERAMIC	4.7p	10%	50V
C59	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C60	CC45FCH1H221J	CAP. CERAMIC	220p	5%	50V
C61	CC45FCH1H390J	CAP. CERAMIC	39p	5%	50V
C62	CC45FCH1H080D	CAP. CERAMIC	8p	0.5p	50V
C63	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C64	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C101	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C102	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C103	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C104	CC45FCH1H100D	CAP. CERAMIC	10p	0.5p	50V
C105	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C106	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C107	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C108	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C109	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C110	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C111	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C112	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C113	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C115	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V

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C119	CE04LW2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C120	C90-3016-05	CAP. ELECTRO	47u	20%	10V
C151	CC45FCH1H120J	CAP. CERAMIC	12p	5%	50V
C152	CC45FCH1H120J	CAP. CERAMIC	12p	5%	50V
C154	CC45FCH1H100D	CAP. CERAMIC	10p	0.5p	50V
C155	CE04HW1E220M	CAP. ELECTRO	22u	20%	25V
C156	CC45FCH1H180J	CAP. CERAMIC	18p	5%	50V
C157	C91-1235-05	CAP. CERAMIC	10p	5%	50V
C158	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C190	CC45FCH1H270J	CAP. CERAMIC	27p	5%	50V
C191	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C201	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C202	CE04HW1E220M	CAP. ELECTRO	22u	20%	25V
C203	CE04EW1C100M	CAP. ELECTRO	10u	20%	16V
C204	CC45FCH1H820J	CAP. CERAMIC	82p	5%	50V
C206	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C208	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C209	CC45SL1H020C	CAP. CERAMIC	2p	0.25p	50V
C210	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C211	C91-0737-05	CAP. CERAMIC	47p	5%	50V
C212	CE04EW1H2R2M	CAP. ELECTRO	2.2u	20%	50V
C213	CK45FB1H472K	CAP. CERAMIC	4700p	10%	50V
C214	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C215	C91-1316-05	CAP. METALIZED FILM	2.2u	5%	100V
C216	CQ93HP1H222J	CAP. POLYESTER	2200p	5%	50V
C218	C91-2605-05	CAP. CERAMIC	470p	5%	50V
C219	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C220	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C222	CC45FSL1H820J	CAP. CERAMIC	82p	5%	50V
C223	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C224	CC45FCH1H220J	CAP. CERAMIC	22p	5%	50V
C225	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C226	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C227	C91-0769-05	CAP. CERAMIC	0.01u	20%	16V
C228	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C229	C91-1128-05	CAP. CERAMIC	0.1u	-20/80%	50V
C231	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C232	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C233	CC45FSL1H470J	CAP. CERAMIC	47p	5%	50V
C234	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C251	CE04LW2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C252	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C253	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C254	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C255	CE04EW1C100M	CAP. ELECTRO	10u	20%	16V
C256	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C257	C91-0769-05	CAP. CERAMIC	0.01u	20%	16V
C258	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C259	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C260	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C261	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C262	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C263	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C264	C91-1128-05	CAP. CERAMIC	0.1u	-20/80%	50V
C265	CE04EW1A331M	CAP. ELECTRO	330u	20%	10V

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C266	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C268	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C269	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C270	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C271	CE04EW1A102M	CAP. ELECTRO	1000u	20%	10V
C272	C91-1128-05	CAP. CERAMIC	0.1u	-20/80%	50V
C273	C91-1128-05	CAP. CERAMIC	0.1u	-20/80%	50V
C274	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C291	CC45CH1H100D	CAP. CERAMIC	10p	0.5p	50V
C293	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C302	CC45FSL1H681J	CAP. CERAMIC	680p	5%	50V
C303	CC45FCH1H180J	CAP. CERAMIC	18p	5%	50V
C304	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C305	CF93AN2E104K	CAP. METALIZED FILM	0.1u	10%	250V
C307	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C401	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C402	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C501	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C502	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C503	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C504	CC45CH1H040C	CAP. CERAMIC	4p	0.25p	50V
C505	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C506	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C532	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C602	CC45FCH1H560J	CAP. CERAMIC	56p	5%	50V
C605	CC45FCH1H680J	CAP. CERAMIC	68p	5%	50V
C606	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C607	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C608	CC45FCH1H680J	CAP. CERAMIC	68p	5%	50V
C609	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C901	CC45CH1H470J	CAP. CERAMIC	47p	5%	50V
CN1	E40-7884-08	PIN CONNECTOR	8-7P		
CN2	E40-7881-08	PIN CONNECTOR	9P		
CN3	E40-7882-08	PIN CONNECTOR	10P		
CN4	E40-7880-08	PIN CONNECTOR	4P		
CN5	E40-7878-08	PIN CONNECTOR	2P		
CN6	E40-7883-08	PIN CONNECTOR	4-3P		
CN7	E40-7879-08	PIN CONNECTOR	3P		
CN8	E40-7885-08	PIN CONNECTOR	10-9P		
D202	1SS133	DIODE			
D203	1SS133	DIODE			
D204	1SS133	DIODE			
D205	1SS133	DIODE			
D206	1SS133	DIODE			
D207	1SS133	DIODE			
D210	1SS133	DIODE			
D212	1SS133	DIODE			
D213	1SS133	DIODE			
D214	1SS133	DIODE			
D215	1SS133	DIODE			
D217	1SS133	DIODE			
D218	1SS133	DIODE			
D219	1SS133	DIODE			
D220	1SS133	DIODE			

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D221	MA700	DIODE		
D222	1SS133	DIODE		
D301	1SS83	DIODE		
D302	1SS83	DIODE		
D303	1SS133	DIODE		
D304	1SS133	DIODE		
D602	1SS133	DIODE		
IC1	KMC20	HIC		
IC2	KMC20	HIC		
IC3	KMC21	HIC		
IC4	KMC21	HIC		
IC5	KMC22	HIC		
IC6	KMC22	HIC		
IC201	KMD07	HIC		
IC202	SN74LS86AN	IC, QUAD 2-INPUT EXCLUSIVE OR GATE		
IC203	SN74LS51N	IC, DUAL 2-WIDE 2-INPUT / 3-INPUT AND-OR-INVERT GATE		
IC204	SN74LS74AN	IC, DUAL D-TYPE PISITIVE EDGE-TRIGGERED FLIP-FLOP		
IC205	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC206	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC207	KMH03	HIC		
L1	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
L2	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
Q3	2SC1740S(R,S)	TR. SI, NPN		
Q4	2SA933AS(R,S)	TR. SI, PNP		
Q5	2SA933AS(R,S)	TR. SI, PNP		
Q6	2SC1923(O)	TR. SI, NPN		
Q7	2SC1923(O)	TR. SI, NPN		
Q8	2SC1923(O)	TR. SI, NPN		
Q9	2SC1923(O)	TR. SI, NPN		
Q10	2SA1005(K)	TR. SI, PNP		
Q11	2SA1005(K)	TR. SI, PNP		
Q12	2SC3787(S,T)	TR. SI, NPN		
Q13	2SA1477(S,T)	TR. SI, PNP		
Q14	2SC3787(S,T)	TR. SI, NPN		
Q15	2SA1477(S,T)	TR. SI, PNP		
Q16	2SA933S(R)	TR. SI, PNP		
Q17	2SC1740S(R,S)	TR. SI, NPN		
Q18	2SC1740S(R,S)	TR. SI, NPN		
Q19	2SA933AS(R,S)	TR. SI, PNP		
Q20	2SC1740S(R,S)	TR. SI, NPN		
Q21	2SC1740S(R,S)	TR. SI, NPN		
Q22	2SC1740S(R,S)	TR. SI, NPN		
Q23	2SC1740S(R,S)	TR. SI, NPN		
Q201	2SK161(GR)	FET		
Q202	2SC1740S(R,S)	TR. SI, NPN		
Q203	2SA933AS(R,S)	TR. SI, PNP		
Q204	2SC1740S(R,S)	TR. SI, NPN		
Q205	2SC1923(O)	TR. SI, NPN		
Q206	2SC1923(O)	TR. SI, NPN		
Q207	2SA933AS(R,S)	TR. SI, PNP		
Q208	2SC1740S(R,S)	TR. SI, NPN		
Q209	2SA933AS(R,S)	TR. SI, PNP		
Q210	2SA933AS(R,S)	TR. SI, PNP		
Q211	2SC1740S(R,S)	TR. SI, NPN		

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Q212	2SC1740S(R,S)	TR. SI, NPN			
Q213	2SA933AS(R,S)	TR. SI, PNP			
Q214	2SA933AS(R,S)	TR. SI, PNP			
Q215	2SC1740S(R,S)	TR. SI, NPN			
Q216	2SA933AS(R,S)	TR. SI, PNP			
Q217	2SC1740S(R,S)	TR. SI, NPN			
Q218	2SC1740S(R,S)	TR. SI, NPN			
Q219	2SA933AS(R,S)	TR. SI, PNP			
Q220	2SC1740S(R,S)	TR. SI, NPN			
Q221	2SC3732(L)	TR. SI, NPN			
Q222	2SC1740S(R,S)	TR. SI, NPN			
Q223	2SA933AS(R,S)	TR. SI, PNP			
Q224	2SC1740S(R,S)	TR. SI, NPN			
Q226	2SA933AS(R,S)	TR. SI, PNP			
Q227	2SC1740S(R,S)	TR. SI, NPN			
Q229	2SC1740S(R,S)	TR. SI, NPN			
Q230	2SC1740S(R,S)	TR. SI, NPN			
Q231	2SC1740S(R,S)	TR. SI, NPN			
Q301	2SC1740S(R,S)	TR. SI, NPN			
Q302	2SC1740S(R,S)	TR. SI, NPN			
Q303	2SA1005(K)	TR. SI, PNP			
Q304	2SA1005(K)	TR. SI, PNP			
Q305	2SC1923(O)	TR. SI, NPN			
Q306	2SC1923(O)	TR. SI, NPN			
Q307	2SA1209(S,T)	TR. SI, PNP			
Q308	2SC2911(S,T)	TR. SI, NPN			
Q309	2SC2911(S,T)	TR. SI, NPN			
Q310	2SA1209(S,T)	TR. SI, PNP			
Q315	2SK583-KEN	FET			
Q316	2SK583-KEN	FET			
Q511	2SC1740S(R,S)	TR. SI, NPN			
R1	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R2	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R3	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R4	RD14BB2C680J	RES. CARBON	68	5%	1/6W
R5	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R6	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R7	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R8	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R9	RN14BK2C10R0F	RES. METAL FILM	10	1%	1/6W
R10	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R11	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R12	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R13	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R15	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R17	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R25	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R26	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R27	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R28	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R29	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R31	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R32	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R34	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R36	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R37	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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Ref. No	Parts No.	Name & Description			
R38	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R39	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R40	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R41	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R42	RD14BB2C911J	RES. CARBON	910	5%	1/6W
R43	RD14BB2C363J	RES. CARBON	36K	5%	1/6W
R44	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R45	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R46	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R47	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R51	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R52	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R53	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R54	RD14BB2C680J	RES. CARBON	68	5%	1/6W
R55	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R56	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R57	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R58	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R59	RN14BK2C10R0F	RES. METAL FILM	10	1%	1/6W
R60	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R61	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R62	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R63	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R65	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R67	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R75	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R76	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R77	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R78	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R79	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R81	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R82	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R84	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R86	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R87	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R88	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R89	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R90	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R91	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R93	RD14BB2C681J	RES. CARBON	680	5%	1/6W
R94	RD14BB2C683J	RES. CARBON	68K	5%	1/6W
R95	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R96	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R101	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R102	RN14BK2C6200F	RES. METAL FILM	620	1%	1/6W
R103	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R104	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R105	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R106	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R107	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R108	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R109	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R110	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R111	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R112	RD14BB2C470J	RES. CARBON	47	5%	1/6W

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Ref. No	Parts No.	Name & Description			
R113	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R114	RN14BK2C1801F	RES. METAL FILM	1.8K	1%	1/6W
R115	RN14BK2C1801F	RES. METAL FILM	1.8K	1%	1/6W
R116	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R117	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R118	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R119	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R120	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R121	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R122	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R123	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R124	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R125	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R126	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R127	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R128	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R129	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R130	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R131	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R132	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R133	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R134	R92-4160-08	RES. CARBON	22K	5%	1W
R135	R92-4160-08	RES. CARBON	22K	5%	1W
R136	RN14BK2C2002F	RES. METAL FILM	20K	1%	1/6W
R137	RN14BK2C1603F	RES. METAL FILM	160K	1%	1/6W
R139	R92-4159-08	RES. CARBON	18K	5%	1W
R140	RN14BK2C2002F	RES. METAL FILM	20K	1%	1/6W
R141	RN14BK2C1603F	RES. METAL FILM	160K	1%	1/6W
R143	R92-4159-08	RES. CARBON	18K	5%	1W
R144	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R145	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R146	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R147	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R148	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R149	R92-4163-08	RES. CARBON	470	5%	2W
R150	R92-4163-08	RES. CARBON	470	5%	2W
R151	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R152	RD14BB2C822J	RES. CARBON	8.2K	5%	1/6W
R154	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R155	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R156	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R157	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R159	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R160	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R161	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R162	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R164	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R165	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R166	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R167	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R168	RD14BB2C822J	RES. CARBON	8.2K	5%	1/6W
R170	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R171	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R172	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R173	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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R175	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R176	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R177	RN14BK2C2701F	RES. METAL FILM	2.7K	1%	1/6W
R178	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R179	RN14BK2C3901F	RES. METAL FILM	3.9K	1%	1/6W
R180	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R181	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R182	RD14BB2C821J	RES. CARBON	820	5%	1/6W
R183	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R184	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R185	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R190	RD14BB2C334J	RES. CARBON	330K	5%	1/6W
R201	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R202	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R203	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R204	RD14BB2C162J	RES. CARBON	1.6K	5%	1/6W
R205	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R206	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R207	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R208	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R211	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R212	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R213	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R214	RD14BB2C153J	RES. CARBON	15K	5%	1/6W
R216	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R217	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R218	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R219	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R220	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R221	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R222	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
R223	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R224	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R225	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R226	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R227	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R228	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R229	RN14BK2C6203F	RES. METAL FILM	620K	1%	1/6W
R230	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R231	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R232	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R233	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R234	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R235	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R236	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R237	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R238	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R239	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R240	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R242	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R243	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R244	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R245	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R246	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R247	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W

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R248	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R249	RD14BB2C513J	RES. CARBON	51K	5%	1/6W
R250	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R251	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R252	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R253	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R254	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R255	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R256	RD14BB2C301J	RES. CARBON	300	5%	1/6W
R257	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R258	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R259	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R260	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R261	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R262	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R263	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R264	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R265	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R267	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R268	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R270	RD14BB2C432J	RES. CARBON	4.3K	5%	1/6W
R272	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R274	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W
R275	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R276	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R277	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R278	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R279	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R280	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R281	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R282	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R283	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R284	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R285	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R286	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R287	RD14BB2C112J	RES. CARBON	1.1K	5%	1/6W
R288	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R289	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R291	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R292	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R293	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R295	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R296	RD14BB2C680J	RES. CARBON	68	5%	1/6W
R297	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R298	RD14BB2E221J	RES. CARBON	220	5%	1/4W
R301	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R302	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R303	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R304	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R305	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R306	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R307	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R308	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R309	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R310	RD14BB2C304J	RES. CARBON	300K	5%	1/6W

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R311	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R312	RD14BB2C820J	RES. CARBON	82	5%	1/6W
R313	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R314	RD14BB2C820J	RES. CARBON	82	5%	1/6W
R315	RD14BB2C753J	RES. CARBON	75K	5%	1/6W
R316	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R317	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R318	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R319	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R320	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R321	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R322	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R323	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R324	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R325	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R326	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R327	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R328	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R329	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R330	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R334	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R335	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R336	RD14BB2E432J	RES. CARBON	4.3K	5%	1/4W
R337	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R340	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R341	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R342	R90-0229-05	RES. NETWORK	10K*8	5%	1/8W
R343	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R344	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R345	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R346	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R347	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R348	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R401	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R402	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R403	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R404	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R405	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R406	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R407	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R501	E31-2170-05	JUMPER WIRE	0		
R502	E31-2170-05	JUMPER WIRE	0		
R511	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R601	E31-2170-05	JUMPER WIRE	0		
R602	RD14BB2C271J	RES. CARBON	270	5%	1/6W
R603	E31-2170-05	JUMPER WIRE	0		
R605	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R606	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R607	RN14BK2C2401F	RES. METAL FILM	2.4K	1%	1/6W
R608	E31-2170-05	JUMPER WIRE	0		
R609	E31-2170-05	JUMPER WIRE	0		
R610	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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R611	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R801	RD14BB2C100J	RES. CARBON	10	5%	1/6W
S1	S03-5501-15	ROTARY SWITCH			
S2	S03-5501-15	ROTARY SWITCH			
S201	S60-0601-15	ROTARY SWITCH			
S401	S64-0612-08	LEVER SWITCH			
S402	S64-0612-08	LEVER SWITCH			
S403	S40-1532-05	PUSH SWITCH			
TC1	C05-0031-15	CAP. TRIMMER	10p		550V
TC2	C05-0308-05	CAP. TRIMMER	4p		550V
TC3	C05-0031-15	CAP. TRIMMER	10p		550V
TC4	C05-0308-05	CAP. TRIMMER	4p		550V
TC6	C05-0469-05	CAP. TRIMMER	10p		
TC51	C05-0031-15	CAP. TRIMMER	10p		550V
TC52	C05-0308-05	CAP. TRIMMER	4p		550V
TC53	C05-0031-15	CAP. TRIMMER	10p		550V
TC54	C05-0308-05	CAP. TRIMMER	4p		550V
TC56	C05-0469-05	CAP. TRIMMER	10p		
TC101	C05-0471-05	CAP. TRIMMER	30p		
VR1	R12-3144-05	RES. SEMI FIXED	20KB		0.2W
VR2	R12-3537-05	RES. SEMI FIXED	20KB		0.2W
VR3	R12-3526-05	RES. SEMI FIXED	10KB		0.2W
VR4	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR5	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR6	R12-3537-05	RES. SEMI FIXED	20KB		0.2W
VR51	R12-3144-05	RES. SEMI FIXED	20KB		0.2W
VR52	R12-3537-05	RES. SEMI FIXED	20KB		0.2W
VR53	R12-3526-05	RES. SEMI FIXED	10KB		0.2W
VR54	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR55	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR57	R12-0563-05	RES. SEMI FIXED	500B		0.2W
VR101	R12-0562-05	RES. SEMI FIXED	200B		0.2W
VR102	R12-3526-05	RES. SEMI FIXED	10KB		0.2W
VR103	R12-1528-05	RES. SEMI FIXED	1KB		0.2W
VR104	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR151	R12-0563-05	RES. SEMI FIXED	500B		0.2W
VR152	R12-3526-05	RES. SEMI FIXED	10KB		0.2W
VR201	R12-2517-05	RES. SEMI FIXED	5KB		0.2W
VR202	R12-1528-05	RES. SEMI FIXED	1KB		0.2W
VR250	R12-3537-05	RES. SEMI FIXED	20KB		0.2W
VR301	R12-2517-05	RES. SEMI FIXED	5KB		0.2W
VR302	R12-0561-05	RES. SEMI FIXED	100B		0.2W
VR303	R12-1528-05	RES. SEMI FIXED	1KB		0.2W

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		CS-4135A OVERALL UNIT (X65-1500-00)			
	A22-0878-13	SUB PANEL			
	E04-0259-15	BNC TERMINAL			
	E21-0834-08	GROUND TERMINAL			
	E31-2170-05	JUMPER WIRE	0		
	F01-2410-08	HEAT SINK (A)			
	F10-1628-14	SHIELD PLATE			
	F10-2591-04	SHIELD PLATE			
	J19-1719-04	HOLDER; WIRE			
	J73-0796-02	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS PAN HD (M3*10)			
	N89-3006-41	SCREW, BINDING TAPTITE (3*6)			
C1	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C2	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C3	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C4	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C6	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C7	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C9	CC45FCH1H330J	CAP. CERAMIC	33P	5%	50V
C10	CC45FSL1H331J	CAP. CERAMIC	330p	5%	50V
C11	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C13	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C14	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C51	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C52	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C53	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C54	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C56	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C57	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C59	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C60	CC45FSL1H331J	CAP. CERAMIC	330p	5%	50V
C61	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C63	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C64	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C101	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C102	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C103	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C104	CC45FSL1H561J	CAP. CERAMIC	560p	5%	50V
C105	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C106	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C107	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C108	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C109	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C110	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C111	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C112	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C113	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C115	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C117	CF93AN2E104K	CAP. METALIZED FILM	0.1u	10%	250V
C118	CF93AN2E104K	CAP. METALIZED FILM	0.1u	10%	250V
C119	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C120	C90-3016-05	CAP. ELECTRO	47u	20%	10V

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C151	CC45FCH1H070D	CAP. CERAMIC	7p	0.5p	50V
C152	CC45FCH1H070D	CAP. CERAMIC	7p	0.5p	50V
C154	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C155	CE04BW1E220M	CAP. ELECTRO	22u	20%	25V
C156	CC45FCH1H070D	CAP. CERAMIC	7p	0.5p	50V
C157	CC45FCH1H070D	CAP. CERAMIC	7p	0.5p	50V
C158	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C190	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C201	CC45FSL1H220J	CAP. CERAMIC	22p	5%	50V
C202	CE04BW1E220M	CAP. ELECTRO	22u	20%	25V
C203	CE04EW1E4R7M	CAP. ELECTRO	4.7u	20%	25V
C204	CC45FCH1H820J	CAP. CERAMIC	82p	5%	50V
C206	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C208	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C209	CC45SL1H030C	CAP. CERAMIC	3p	0.25p	50V
C210	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C211	CC45FSL1H470J	CAP. CERAMIC	47p	5%	50V
C212	CE04EW1H2R2M	CAP. ELECTRO	2.2u	20%	50V
C213	CK45FB1H472K	CAP. CERAMIC	4700p	10%	50V
C214	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C215	C91-1316-05	CAP. METALIZED FILM	2.2u	5%	100V
C216	CQ93HP1H222J	CAP. POLYESTER	2200p	5%	50V
C218	CC45FSL1H391J	CAP. CERAMIC	390p	5%	50V
C219	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C220	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C222	CC45FCH1H820J	CAP. CERAMIC	82p	5%	50V
C223	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C225	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C226	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C227	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C228	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C229	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C231	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C232	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C233	CC45FSL1H270J	CAP. CERAMIC	27p	5%	50V
C234	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C251	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C252	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C253	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C254	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C255	CE04EW1C100M	CAP. ELECTRO	10u	20%	16V
C256	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C257	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C258	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C259	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C260	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C261	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C262	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C263	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C264	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C265	CE04EW1A331M	CAP. ELECTRO	330u	20%	10V
C266	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C267	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C268	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C269	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V

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C270	CE04EW1C220M	CAP. ELECTRO	22u	20%	16V
C271	CE04EW1C220M	CAP. ELECTRO	22u	20%	16V
C272	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C273	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C291	CC45FCH1H100D	CAP. CERAMIC	10p	0.5p	50V
C293	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C296	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C302	CC45FCH1H151J	CAP. CERAMIC	150p	5%	50V
C304	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C305	CK45FB2H103K	CAP. CERAMIC	0.01u	10%	500V
C306	CK45FB2H102K	CAP. CERAMIC	1000p	10%	500V
C401	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C402	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C501	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C502	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C503	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C504	CC45CH1H030C	CAP. CERAMIC	3p	0.25p	50V
C531	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C532	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C534	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C535	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C601	CK45FB1H472K	CAP. CERAMIC	4700p	10%	50V
C606	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C607	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C608	CC45FSL1H820J	CAP. CERAMIC	82p	5%	50V
C609	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C901	CC45CH1H470J	CAP. CERAMIC	47p	5%	50V
CN1	E40-7884-08	PIN CONNECTOR	8-7P		
CN2	E40-7881-08	PIN CONNECTOR	9P		
CN3	E40-7882-08	PIN CONNECTOR	10P		
CN4	E40-7880-08	PIN CONNECTOR	4P		
CN5	E40-7878-08	PIN CONNECTOR	2P		
CN6	E40-7883-08	PIN CONNECTOR	4-3P		
CN7	E40-7879-08	PIN CONNECTOR	3P		
CN11	E40-7886-08	PIN CONNECTOR	11-10P		
D202	1SS133	DIODE			
D203	1SS133	DIODE			
D204	1SS133	DIODE			
D205	1SS133	DIODE			
D206	1SS133	DIODE			
D207	1SS133	DIODE			
D210	1SS133	DIODE			
D212	1SS133	DIODE			
D213	1SS133	DIODE			
D214	1SS133	DIODE			
D215	1SS133	DIODE			
D217	1SS133	DIODE			
D218	1SS133	DIODE			
D219	1SS133	DIODE			
D220	1SS133	DIODE			
D221	MA700	DIODE			
D222	1SS133	DIODE			
D301	1SS83	DIODE			
D302	1SS83	DIODE			
D303	MA700	DIODE			

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D304	1SS133	DIODE		
D511	MA700	DIODE		
D601	1SS133	DIODE		
IC1	KMC20	HIC		
IC2	KMC20	HIC		
IC3	KMC21	HIC		
IC4	KMC21	HIC		
IC5	KMC22	HIC		
IC6	KMC22	HIC		
IC201	KMD07	HIC		
IC202	SN74ALS86N	IC, QUAD 2-INPUT EXCLUSIVE OR GATE		
IC203	SN74LS51N	IC, DUAL 2-WIDE 2-INPUT / 3-INPUT AND-OR-INVERT GATE		
IC204	SN74LS74AN	IC, DUAL D-TYPE PISITIVE EDGE-TRIGGERED FLIP-FLOP		
IC205	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC206	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC207	KMH03	HIC		
L1	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
L2	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
L3	L37-0106-08	FERRI INDUCTOR	100uH	10%
Q3	2SC1740S(R,S)	TR. SI, NPN		
Q4	2SA1459(L)	TR. SI, PNP		
Q5	2SA1459(L)	TR. SI, PNP		
Q6	2SC3354(S, T)	TR. SI, NPN		
Q7	2SC3354(S, T)	TR. SI, NPN		
Q8	2SC3354(S, T)	TR. SI, NPN		
Q9	2SC3354(S, T)	TR. SI, NPN		
Q10	2SA1459(L)	TR. SI, PNP		
Q11	2SA1459(L)	TR. SI, PNP		
Q12	2SC3423(Y)	TR. SI, NPN		
Q13	2SA1360(Y)	TR. SI, PNP		
Q14	2SC3423(Y)	TR. SI, NPN		
Q15	2SA1360(Y)	TR. SI, PNP		
Q16	2SA1005(K)	TR. SI, PNP		
Q17	2SC1740S(R,S)	TR. SI, NPN		
Q18	2SC1740S(R,S)	TR. SI, NPN		
Q19	2SA1005(K)	TR. SI, PNP		
Q20	2SC1740S(R,S)	TR. SI, NPN		
Q21	2SC1740S(R,S)	TR. SI, NPN		
Q22	2SC1740S(R,S)	TR. SI, NPN		
Q23	2SC1740S(R,S)	TR. SI, NPN		
Q201	2SK161(GR)	FET		
Q202	2SC1923(O)	TR. SI, NPN		
Q203	2SA1005(K)	TR. SI, PNP		
Q204	2SC3354(S, T)	TR. SI, NPN		
Q205	2SC1923(O)	TR. SI, NPN		
Q206	2SC1923(O)	TR. SI, NPN		
Q207	2SA933AS(R,S)	TR. SI, PNP		
Q208	2SC1740S(R,S)	TR. SI, NPN		
Q209	2SA933AS(R,S)	TR. SI, PNP		
Q210	2SA933AS(R,S)	TR. SI, PNP		
Q211	2SC1740S(R,S)	TR. SI, NPN		
Q212	2SC1923(O)	TR. SI, NPN		
Q213	2SA1005(K)	TR. SI, PNP		
Q214	2SA933AS(R,S)	TR. SI, PNP		

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Q215	2SC1740S(R,S)	TR. SI, NPN			
Q216	2SA933AS(R,S)	TR. SI, PNP			
Q217	2SC1740S(R,S)	TR. SI, NPN			
Q218	2SC1740S(R,S)	TR. SI, NPN			
Q219	2SA933AS(R,S)	TR. SI, PNP			
Q220	2SC1740S(R,S)	TR. SI, NPN			
Q221	2SC3732(L)	TR. SI, NPN			
Q222	2SC1740S(R,S)	TR. SI, NPN			
Q223	2SA933AS(R,S)	TR. SI, PNP			
Q224	2SC1740S(R,S)	TR. SI, NPN			
Q226	2SA933AS(R,S)	TR. SI, PNP			
Q227	2SC1740S(R,S)	TR. SI, NPN			
Q229	2SC1740S(R,S)	TR. SI, NPN			
Q230	2SC1740S(R,S)	TR. SI, NPN			
Q231	2SC1740S(R,S)	TR. SI, NPN			
Q301	2SC1740S(R,S)	TR. SI, NPN			
Q302	2SC1740S(R,S)	TR. SI, NPN			
Q303	2SA1005(K)	TR. SI, PNP			
Q304	2SA1005(K)	TR. SI, PNP			
Q305	2SC1740S(R,S)	TR. SI, NPN			
Q306	2SC1740S(R,S)	TR. SI, NPN			
Q307	2SA1209(S,T)	TR. SI, PNP			
Q308	2SC2911(S,T)	TR. SI, NPN			
Q309	2SC2911(S,T)	TR. SI, NPN			
Q310	2SA1209(S,T)	TR. SI, PNP			
Q315	2SK583-KEN	FET			
Q316	2SK583-KEN	FET			
Q511	2SC1740S(R,S)	TR. SI, NPN			
R1	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R2	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R3	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R4	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R5	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R6	RD14BB2C331J	RES. CARBON	330	5%	1/6W
R7	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R8	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R9	RD14BB2C180J	RES. CARBON	18	5%	1/6W
R10	RD14BB2C391J	RES. CARBON	390	5%	1/6W
R11	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R12	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R13	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R15	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R17	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R25	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R26	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R27	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R28	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R29	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R30	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R31	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R32	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R34	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R36	RD14BB2C102J	RES. CARBON	1K	5%	1/6W

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R37	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R38	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R39	RD14BB2C133J	RES. CARBON	13K	5%	1/6W
R40	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R41	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R42	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R44	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R45	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R46	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R47	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R51	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R52	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R53	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R54	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R55	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R56	RD14BB2C331J	RES. CARBON	330	5%	1/6W
R57	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R58	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R59	RD14BB2C180J	RES. CARBON	18	5%	1/6W
R60	RD14BB2C391J	RES. CARBON	390	5%	1/6W
R61	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R62	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R63	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R65	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R67	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R75	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R76	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R77	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R78	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R79	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R80	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R81	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R82	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R84	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R86	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R87	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R88	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R89	RD14BB2C133J	RES. CARBON	13K	5%	1/6W
R90	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R91	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R93	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R95	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R96	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R101	RD14BB2C243J	RES. CARBON	24K	5%	1/6W
R102	RN14BK2C6200F	RES. METAL FILM	620	1%	1/6W
R103	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R104	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R105	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R106	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R107	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R108	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R109	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R110	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R111	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R112	RD14BB2C470J	RES. CARBON	47	5%	1/6W

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R113	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R114	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R115	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R116	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R117	RN14BK2C62R0F	RES. METAL FILM	62	1%	1/6W
R118	RN14BK2C3300F	RES. METAL FILM	330	1%	1/6W
R119	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R120	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R121	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R122	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R123	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R124	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R125	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R126	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R127	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R128	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R129	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R130	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R131	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R132	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R133	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R134	R92-4158-08	RES. CARBON	12K	5%	1W
R135	R92-4158-08	RES. CARBON	12K	5%	1W
R136	RN14BK2C1802F	RES. METAL FILM	18K	1%	1/6W
R137	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R138	RN14BK2E2000F	RES. METAL FILM	200	1%	1/4W
R139	R92-4158-08	RES. CARBON	12K	5%	1W
R140	RN14BK2C1802F	RES. METAL FILM	18K	1%	1/6W
R141	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R142	RN14BK2E2000F	RES. METAL FILM	200	1%	1/4W
R143	R92-4158-08	RES. CARBON	12K	5%	1W
R144	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R145	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R146	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R147	RN14BK2C2000F	RES. METAL FILM	200	1%	1/6W
R148	RN14BK2C2000F	RES. METAL FILM	200	1%	1/6W
R151	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R152	RD14BB2C113J	RES. CARBON	11K	5%	1/6W
R154	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R155	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R156	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R157	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R159	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R160	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R161	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R162	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R164	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R165	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R166	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R167	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R168	RD14BB2C113J	RES. CARBON	11K	5%	1/6W
R170	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R171	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R172	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R173	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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R175	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R176	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R177	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R178	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R179	RN14BK2C3301F	RES. METAL FILM	3.3K	1%	1/6W
R180	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R181	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R182	RD14BB2C821J	RES. CARBON	820	5%	1/6W
R183	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R184	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R185	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R190	RN14BK2C7502F	RES. METAL FILM	75K	1%	1/6W
R201	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R202	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R203	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R204	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R205	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R206	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R207	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R208	RD14BB2C681J	RES. CARBON	680	5%	1/6W
R210	RN14BK2C3603F	RES. METAL FILM	360K	1%	1/6W
R211	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R212	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R213	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R214	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R216	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R217	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W
R218	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R219	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R220	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R221	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R222	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
R223	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R224	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R225	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R226	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R227	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R228	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R229	RN14BK2C6203F	RES. METAL FILM	620K	1%	1/6W
R230	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R231	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R232	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R233	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R234	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R235	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R236	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R237	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R238	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R239	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R240	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R242	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R243	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R244	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R245	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R246	RD14BB2C104J	RES. CARBON	100K	5%	1/6W

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R247	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R248	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R249	RD14BB2C513J	RES. CARBON	51K	5%	1/6W
R250	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R251	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R252	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R253	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R254	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R255	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R256	RD14BB2C301J	RES. CARBON	300	5%	1/6W
R257	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R258	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R259	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R260	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R261	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R262	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R263	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R264	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R265	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R267	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R268	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R270	RD14BB2C432J	RES. CARBON	4.3K	5%	1/6W
R272	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R274	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W
R275	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R276	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R277	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R278	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R279	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R280	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R281	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R282	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R283	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R284	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R285	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R286	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R287	RD14BB2C112J	RES. CARBON	1.1K	5%	1/6W
R288	RD14BB2E221J	RES. CARBON	220	5%	1/4W
R289	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R290	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R291	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R292	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R295	RD14BB2C391J	RES. CARBON	390	5%	1/6W
R296	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R297	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R298	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R301	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R302	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R303	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R304	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R305	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R306	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R307	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R308	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R309	RD14BB2C101J	RES. CARBON	100	5%	1/6W

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Ref. No	Parts No.	Name & Description			
R310	RD14BB2C304J	RES. CARBON	300K	5%	1/6W
R311	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R312	RD14BB2C331J	RES. CARBON	330	5%	1/6W
R314	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R316	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R317	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R318	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R319	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R320	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R321	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R322	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R323	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R324	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R325	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R326	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R327	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R328	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R329	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R330	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R334	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R335	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R336	RD14BB2E432J	RES. CARBON	4.3K	5%	1/4W
R337	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R340	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R341	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R342	R90-0229-05	RES. NETWORK	10K*8	5%	1/8W
R343	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R344	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R345	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R346	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R347	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R348	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R401	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R402	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R403	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R404	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R405	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R406	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R407	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R511	CC45FCH1H101J	CAP. CERAMIC	100p	5%	50V
R512	RN14BK2C1201F	RES. METAL FILM	1.2K	1%	1/6W
R603	RD14BB2C391J	RES. CARBON	390	5%	1/6W
R604	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R605	E31-2170-05	JUMPER WIRE	0		
R606	E31-2170-05	JUMPER WIRE	0		
R607	RN14BK2C6801F	RES. METAL FILM	6.8K	1%	1/6W
R608	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R609	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R610	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R611	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R801	RD14BB2C470J	RES. CARBON	47	5%	1/6W
S1	S03-5501-15	ROTARY SWITCH			
S2	S03-5501-15	ROTARY SWITCH			

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S201	S60-0601-15	ROTARY SWITCH		
S401	S64-0612-08	LEVER SWITCH		
S402	S64-0612-08	LEVER SWITCH		
S403	S40-1532-05	PUSH SWITCH		
TC1	C05-0031-15	CAP. TRIMMER	10p	550V
TC2	C05-0308-05	CAP. TRIMMER	4p	550V
TC3	C05-0031-15	CAP. TRIMMER	10p	550V
TC4	C05-0308-05	CAP. TRIMMER	4p	550V
TC6	C05-0469-05	CAP. TRIMMER	10p	
TC51	C05-0031-15	CAP. TRIMMER	10p	550V
TC52	C05-0308-05	CAP. TRIMMER	4p	550V
TC53	C05-0031-15	CAP. TRIMMER	10p	550V
TC54	C05-0308-05	CAP. TRIMMER	4p	550V
TC56	C05-0469-05	CAP. TRIMMER	10p	
TC101	C05-0471-05	CAP. TRIMMER	30p	
TC501	C05-0471-05	CAP. TRIMMER	30p	
TC502	C05-0471-05	CAP. TRIMMER	30p	
TH1	112-102-2FM	THERMISTOR	1K	
TH2	112-102-2FM	THERMISTOR	1K	
VR1	R12-3144-05	RES. SEMI FIXED	20KB	0.2W
VR2	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR3	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR4	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR5	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR6	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR51	R12-3144-05	RES. SEMI FIXED	20KB	0.2W
VR52	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR53	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR54	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR55	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR57	R12-1529-05	RES. SEMI FIXED	2KB	0.2W
VR101	R12-0562-05	RES. SEMI FIXED	200B	0.2W
VR102	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR103	R12-1529-05	RES. SEMI FIXED	2KB	0.2W
VR104	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR151	R12-1528-05	RES. SEMI FIXED	1KB	0.2W
VR152	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR201	R12-2517-05	RES. SEMI FIXED	5KB	0.2W
VR202	R12-1528-05	RES. SEMI FIXED	1KB	0.2W
VR250	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR301	R12-2517-05	RES. SEMI FIXED	5KB	0.2W
VR302	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR303	R12-1528-05	RES. SEMI FIXED	1KB	0.2W

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CS-4135A (S/No. 6050001~) OVERALL UNIT (X65-1500-00)					
	A22-0878-13	SUB PANEL			
	E04-0259-15	BNC TERMINAL			
	E21-0834-08	GROUND TERMINAL			
	E31-2170-05	JUMPER WIRE	0		
	F01-2410-08	HEAT SINK (A)			
	F10-1628-14	SHIELD PLATE			
	F10-2591-04	SHIELD PLATE			
	J19-1719-04	HOLDER; WIRE			
	J73-0796-02	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS PAN HD (M3*10)			
	N89-3006-41	SCREW, BINDING TAPTITE (3*6)			
C1	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C2	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C3	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C4	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C6	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C7	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C9	CC45FCH1H220J	CAP. CERAMIC	22p	5%	50V
C10	CC45FSL1H331J	CAP. CERAMIC	330p	5%	50V
C11	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C12	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C13	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C14	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C51	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C52	C91-2901-08	CAP. CERAMIC	330p	5%	50V
C53	CF93AN2G103K	CAP. POLYESTER	0.01u	10%	400V
C54	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C56	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C57	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C59	CC45FCH1H220J	CAP. CERAMIC	22p	5%	50V
C60	CC45FSL1H331J	CAP. CERAMIC	330p	5%	50V
C61	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C62	CC45FCH1H050C	CAP. CERAMIC	5p	0.25p	50V
C63	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C64	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C101	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C102	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C103	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C104	CC45FSL1H471J	CAP. CERAMIC	470p	5%	50V
C105	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C106	CC45FCH1H080D	CAP. CERAMIC	8p	0.5p	50V
C107	CC45FCH1H080D	CAP. CERAMIC	8p	0.5p	50V
C108	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C109	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C110	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C111	CF93AN2E103K	CAP. METALIZED FILM	0.01u	10%	250V
C112	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C113	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C115	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C117	CF93AN2E104K	CAP. METALIZED FILM	0.1u	10%	250V
C118	CF93AN2E104K	CAP. METALIZED FILM	0.1u	10%	250V

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C119	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C120	C90-3016-05	CAP. ELECTRO	47u	20%	10V
C152	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C154	CC45FCH1H120J	CAP. CERAMIC	12p	5%	50V
C155	CE04BW1E220M	CAP. ELECTRO	22u	20%	25V
C157	CC45FCH1H330J	CAP. CERAMIC	33p	5%	50V
C158	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C201	CC45FSL1H220J	CAP. CERAMIC	22p	5%	50V
C202	CE04BW1E220M	CAP. ELECTRO	22u	20%	25V
C203	CE04EW1E4R7M	CAP. ELECTRO	4.7u	20%	25V
C204	CC45FCH1H820J	CAP. CERAMIC	82p	5%	50V
C206	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C208	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C209	CC45SL1H030C	CAP. CERAMIC	3p	0.25p	50V
C210	CQ92FM1H103K	CAP. MYLAR	0.01u	10%	50V
C211	CC45FSL1H220J	CAP. CERAMIC	22p	5%	50V
C212	CE04EW1H2R2M	CAP. ELECTRO	2.2u	20%	50V
C213	CK45FB1H472K	CAP. CERAMIC	4700p	10%	50V
C214	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C215	C91-1316-05	CAP. METALIZED FILM	2.2u	5%	100V
C216	CQ93HP1H222J	CAP. POLYESTER	2200p	5%	50V
C218	CC45FSL1H391J	CAP. CERAMIC	390p	5%	50V
C219	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C220	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C222	CC45FCH1H820J	CAP. CERAMIC	82p	5%	50V
C223	CE04EW1H010M	CAP. ELECTRO	1u	20%	50V
C225	CC45FSL1H221J	CAP. CERAMIC	220p	5%	50V
C226	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C227	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C228	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C229	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C231	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C232	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C233	CC45FSL1H270J	CAP. CERAMIC	27p	5%	50V
C234	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C251	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C252	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C253	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C254	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C255	CE04EW1C100M	CAP. ELECTRO	10u	20%	16V
C256	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C257	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C258	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C259	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C260	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C261	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C262	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C263	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C264	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C265	CE04EW1A331M	CAP. ELECTRO	330u	20%	10V
C266	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C267	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C268	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C269	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C270	CE04EW1C220M	CAP. ELECTRO	22u	20%	16V

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C271	CE04EW1C220M	CAP. ELECTRO	22u	20%	16V
C272	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C273	C91-1315-05	CAP. CERAMIC	0.1u	-20/80%	50V
C291	CC45FCH1H100D	CAP. CERAMIC	10p	0.5p	50V
C293	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C296	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C302	CC45FCH1H151J	CAP. CERAMIC	150p	5%	50V
C304	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C305	C91-2899-08	CAP. METALIZED FILM	0.012u	5%	250V
C306	CK45FB2H102K	CAP. CERAMIC	1000p	10%	500V
C401	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C402	C91-2664-05	CAP. POLYESTER	0.022u	10%	630V
C501	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C502	CC45FCH1H030C	CAP. CERAMIC	3p	0.25p	50V
C503	CC45FCH1H040C	CAP. CERAMIC	4p	0.25p	50V
C504	CC45CH1H030C	CAP. CERAMIC	3p	0.25p	50V
C531	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C532	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C534	CE04EW1A101M	CAP. ELECTRO	100u	20%	10V
C535	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C601	CK45FB1H472K	CAP. CERAMIC	4700p	10%	50V
C606	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C607	CK45FB1H102K	CAP. CERAMIC	1000p	10%	50V
C608	CC45FSL1H820J	CAP. CERAMIC	82p	5%	50V
C609	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C901	CC45CH1H470J	CAP. CERAMIC	47p	5%	50V
CN1	E40-7884-08	PIN CONNECTOR	8-7P		
CN2	E40-7881-08	PIN CONNECTOR	9P		
CN3	E40-7882-08	PIN CONNECTOR	10P		
CN4	E40-7880-08	PIN CONNECTOR	4P		
CN5	E40-7878-08	PIN CONNECTOR	2P		
CN6	E40-7883-08	PIN CONNECTOR	4-3P		
CN7	E40-7879-08	PIN CONNECTOR	3P		
CN11	E40-7886-08	PIN CONNECTOR	11-10P		
D202	1SS133	DIODE			
D203	1SS133	DIODE			
D204	1SS133	DIODE			
D205	1SS133	DIODE			
D206	1SS133	DIODE			
D207	1SS133	DIODE			
D210	1SS133	DIODE			
D212	1SS133	DIODE			
D213	1SS133	DIODE			
D214	1SS133	DIODE			
D215	1SS133	DIODE			
D217	1SS133	DIODE			
D218	1SS133	DIODE			
D219	1SS133	DIODE			
D220	1SS133	DIODE			
D221	MA700	DIODE			
D222	1SS133	DIODE			
D301	1SS83	DIODE			
D302	1SS83	DIODE			
D303	MA700	DIODE			

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Ref. No	Parts No.	Name & Description		
D304	1SS133	DIODE		
D511	MA700	DIODE		
D601	1SS133	DIODE		
IC1	KMC20	HIC		
IC2	KMC20	HIC		
IC3	KMC21	HIC		
IC4	KMC21	HIC		
IC5	KMC22	HIC		
IC6	KMC22	HIC		
IC201	KMD07	HIC		
IC202	SN74ALS86N	IC, QUAD 2-INPUT EXCLUSIVE OR GATE		
IC203	SN74LS51N	IC, DUAL 2-WIDE 2-INPUT / 3-INPUT AND-OR-INVERT GATE		
IC204	SN74LS74AN	IC, DUAL D-TYPE PISITIVE EDGE-TRIGGERED FLIP-FLOP		
IC205	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC206	SN74LS00N	IC, QUAD 2-INPUT NAND GATE		
IC207	KMH03	HIC		
L1	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
L2	L37-0105-08	FERRI INDUCTOR	0.39uH	10%
L3	L37-0106-08	FERRI INDUCTOR	100uH	10%
Q3	2SC1740S(R,S)	TR. SI, NPN		
Q4	2SA1459(L)	TR. SI, PNP		
Q5	2SA1459(L)	TR. SI, PNP		
Q6	2SC3354(S, T)	TR. SI, NPN		
Q7	2SC3354(S, T)	TR. SI, NPN		
Q8	2SC3354(S, T)	TR. SI, NPN		
Q9	2SC3354(S, T)	TR. SI, NPN		
Q10	2SA1459(L)	TR. SI, PNP		
Q11	2SA1459(L)	TR. SI, PNP		
Q12	2SC3423(Y)	TR. SI, NPN		
Q13	2SA1360(Y)	TR. SI, PNP		
Q14	2SC3423(Y)	TR. SI, NPN		
Q15	2SA1360(Y)	TR. SI, PNP		
Q16	2SA1005(K)	TR. SI, PNP		
Q17	2SC1740S(R,S)	TR. SI, NPN		
Q18	2SC1740S(R,S)	TR. SI, NPN		
Q19	2SA1005(K)	TR. SI, PNP		
Q20	2SC1740S(R,S)	TR. SI, NPN		
Q21	2SC1740S(R,S)	TR. SI, NPN		
Q22	2SC1740S(R,S)	TR. SI, NPN		
Q23	2SC1740S(R,S)	TR. SI, NPN		
Q201	2SK161(GR)	FET		
Q202	2SC1923(O)	TR. SI, NPN		
Q203	2SA1005(K)	TR. SI, PNP		
Q204	2SC3354(S, T)	TR. SI, NPN		
Q205	2SC1923(O)	TR. SI, NPN		
Q206	2SC1923(O)	TR. SI, NPN		
Q207	2SA933AS(R,S)	TR. SI, PNP		
Q208	2SC1740S(R,S)	TR. SI, NPN		
Q209	2SA933AS(R,S)	TR. SI, PNP		
Q210	2SA933AS(R,S)	TR. SI, PNP		
Q211	2SC1740S(R,S)	TR. SI, NPN		
Q212	2SC1740S(R,S)	TR. SI, NPN		
Q213	2SA933AS(R,S)	TR. SI, PNP		
Q214	2SA933AS(R,S)	TR. SI, PNP		

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Q215	2SC1740S(R,S)	TR. SI, NPN			
Q216	2SA933AS(R,S)	TR. SI, PNP			
Q217	2SC1740S(R,S)	TR. SI, NPN			
Q218	2SC1740S(R,S)	TR. SI, NPN			
Q219	2SA933AS(R,S)	TR. SI, PNP			
Q220	2SC1740S(R,S)	TR. SI, NPN			
Q221	2SC3732(L)	TR. SI, NPN			
Q222	2SC1740S(R,S)	TR. SI, NPN			
Q223	2SA933AS(R,S)	TR. SI, PNP			
Q224	2SC1740S(R,S)	TR. SI, NPN			
Q226	2SA933AS(R,S)	TR. SI, PNP			
Q227	2SC1740S(R,S)	TR. SI, NPN			
Q229	2SC1740S(R,S)	TR. SI, NPN			
Q230	2SC1740S(R,S)	TR. SI, NPN			
Q231	2SC1740S(R,S)	TR. SI, NPN			
Q301	2SC1740S(R,S)	TR. SI, NPN			
Q302	2SC1740S(R,S)	TR. SI, NPN			
Q303	2SA1005(K)	TR. SI, PNP			
Q304	2SA1005(K)	TR. SI, PNP			
Q305	2SC1740S(R,S)	TR. SI, NPN			
Q306	2SC1740S(R,S)	TR. SI, NPN			
Q307	2SA1209(S,T)	TR. SI, PNP			
Q308	2SC2911(S,T)	TR. SI, NPN			
Q309	2SC2911(S,T)	TR. SI, NPN			
Q310	2SA1209(S,T)	TR. SI, PNP			
Q315	2SK583-KEN	FET			
Q316	2SK583-KEN	FET			
Q511	2SC1740S(R,S)	TR. SI, NPN			
R1	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R2	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R3	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R4	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R5	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R6	RD14BB2C181J	RES. CARBON	180	5%	1/6W
R7	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R8	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R9	RN14BK2C10R0F	RES. METAL FILM	10	1%	1/6W
R10	RD14BB2C361J	RES. CARBON	360	5%	1/6W
R11	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R12	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R13	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R15	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R17	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R25	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R26	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R27	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R28	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R29	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R30	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R31	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R32	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R34	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R36	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R37	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R38	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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R39	RD14BB2C133J	RES. CARBON	13K	5%	1/6W
R40	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R41	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R42	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R43	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R44	RD14BB2C431J	RES. CARBON	430	5%	1/6W
R45	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R46	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R47	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R51	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R52	RN14BK2E9003D	RES. METAL FILM	900K	0.5%	1/4W
R53	RN14BK2E1113D	RES. METAL FILM	111K	0.5%	1/4W
R54	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R55	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R56	RD14BB2C181J	RES. CARBON	180	5%	1/6W
R57	RN14BK2E9903D	RES. METAL FILM	990K	0.5%	1/4W
R58	RN14BK2E1012D	RES. METAL FILM	10.1K	0.5%	1/4W
R59	RN14BK2C10R0F	RES. METAL FILM	10	1%	1/6W
R60	RD14BB2C361J	RES. CARBON	360	5%	1/6W
R61	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R62	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R63	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R65	RN14BK2C7503F	RES. METAL FILM	750K	1%	1/6W
R67	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R75	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R76	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R77	RN14BK2C56R0F	RES. METAL FILM	56	1%	1/6W
R78	RN14BK2C27R0F	RES. METAL FILM	27	1%	1/6W
R79	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R80	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R81	RN14BK2C1202F	RES. METAL FILM	12K	1%	1/6W
R82	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W
R84	RD14BB2C241J	RES. CARBON	240	5%	1/6W
R86	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R87	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R88	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R89	RD14BB2C133J	RES. CARBON	13K	5%	1/6W
R90	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R91	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R93	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R94	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R95	RD14BB2C431J	RES. CARBON	430	5%	1/6W
R96	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R101	RD14BB2C243J	RES. CARBON	24K	5%	1/6W
R102	RN14BK2C6200F	RES. METAL FILM	620	1%	1/6W
R103	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R104	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R105	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R106	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R107	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W
R108	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R109	RN14BK2C6201F	RES. METAL FILM	6.2K	1%	1/6W
R110	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R111	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W
R112	RD14BB2C470J	RES. CARBON	47	5%	1/6W

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R113	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R114	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R115	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R116	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R117	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R118	RD14BB2C361J	RES. CARBON	360	5%	1/6W
R119	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R120	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R121	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R122	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R123	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R124	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R125	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R126	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R127	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R128	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R129	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R130	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R131	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R132	RN14BK2C68R0F	RES. METAL FILM	68	1%	1/6W
R133	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R134	R92-4158-08	RES. CARBON	12K	5%	1W
R135	R92-4158-08	RES. CARBON	12K	5%	1W
R136	RN14BK2C1802F	RES. METAL FILM	18K	1%	1/6W
R137	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R138	RN14BK2E2000F	RES. METAL FILM	200	1%	1/4W
R139	R92-4158-08	RES. CARBON	12K	5%	1W
R140	RN14BK2C1802F	RES. METAL FILM	18K	1%	1/6W
R141	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R142	RN14BK2E2000F	RES. METAL FILM	200	1%	1/4W
R143	R92-4158-08	RES. CARBON	12K	5%	1W
R144	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R145	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R146	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R147	RN14BK2C2000F	RES. METAL FILM	200	1%	1/6W
R148	RN14BK2C2000F	RES. METAL FILM	200	1%	1/6W
R151	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R152	RD14BB2C113J	RES. CARBON	11K	5%	1/6W
R154	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R155	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R156	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R157	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R159	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R160	RD14BB2C751J	RES. CARBON	750	1%	1/6W
R161	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R162	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R164	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R165	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R166	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R167	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R168	RD14BB2C113J	RES. CARBON	11K	5%	1/6W
R170	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R171	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R172	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R173	RD14BB2C220J	RES. CARBON	22	5%	1/6W

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R175	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R176	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R177	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R178	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R179	RN14BK2C3301F	RES. METAL FILM	3.3K	1%	1/6W
R180	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R181	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R182	RD14BB2C821J	RES. CARBON	820	1%	1/6W
R183	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R184	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R185	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R201	RN14BK2C1004F	RES. METAL FILM	1M	1%	1/6W
R202	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R203	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W
R204	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R205	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R206	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R207	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R208	RD14BB2C681J	RES. CARBON	680	5%	1/6W
R210	RN14BK2C3603F	RES. METAL FILM	360K	1%	1/6W
R211	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R212	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R213	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R214	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R216	RN14BK2C1501F	RES. METAL FILM	1.5K	1%	1/6W
R217	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R218	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R219	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R220	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R221	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R222	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
R223	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R224	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R225	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R226	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R227	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R228	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R229	RN14BK2C6203F	RES. METAL FILM	620K	1%	1/6W
R230	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R231	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R232	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R233	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R234	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R235	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R236	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R237	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W
R238	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R239	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R240	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R242	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R243	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R244	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R245	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R246	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R247	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W

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Ref. No	Parts No.	Name & Description			
R248	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R249	RD14BB2C513J	RES. CARBON	51K	5%	1/6W
R250	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R251	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R252	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R253	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R254	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R255	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R256	RD14BB2C301J	RES. CARBON	300	5%	1/6W
R257	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R258	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R259	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R260	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R261	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R262	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R263	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R264	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R265	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R267	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R268	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R270	RD14BB2C432J	RES. CARBON	4.3K	5%	1/6W
R272	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R274	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W
R275	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R276	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R277	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R278	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W
R279	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R280	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R281	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R282	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R283	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R284	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R285	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R286	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R287	RD14BB2C112J	RES. CARBON	1.1K	5%	1/6W
R288	RD14BB2E221J	RES. CARBON	220	5%	1/4W
R289	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R290	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R291	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R292	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R295	RD14BB2C391J	RES. CARBON	390	5%	1/6W
R296	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R297	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R298	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R301	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R302	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R303	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R304	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R305	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R306	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R307	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R308	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R309	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R310	RD14BB2C304J	RES. CARBON	300K	5%	1/6W

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R311	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R312	RD14BB2C331J	RES. CARBON	330	5%	1/6W
R314	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R316	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R317	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R318	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R319	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R320	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R321	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R322	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R323	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R324	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R325	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R326	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R327	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R328	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R329	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R330	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R334	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R335	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R336	RD14BB2E432J	RES. CARBON	4.3K	5%	1/4W
R337	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R340	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R341	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R342	R90-0229-05	RES. NETWORK	10K*8	5%	1/8W
R343	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R344	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R345	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R346	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R347	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R348	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R401	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R402	RN14BK2E1004F	RES. METAL FILM	1M	1%	1/4W
R403	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R404	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R405	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R406	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R407	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R511	CC45FCH1H101J	CAP. CERAMIC	100p	5%	50V
R512	RN14BK2C1201F	RES. METAL FILM	1.2K	1%	1/6W
R603	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R604	RD14BB2C163J	RES. CARBON	16K	5%	1/6W
R605	E31-2170-05	JUMPER WIRE	0		
R606	E31-2170-05	JUMPER WIRE	0		
R607	RN14BK2C6801F	RES. METAL FILM	6.8K	1%	1/6W
R608	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R609	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R610	RD14BB2C361J	RES. CARBON	360	5%	1/6W
R611	RD14BB2C361J	RES. CARBON	360	5%	1/6W
R801	RD14BB2C470J	RES. CARBON	47	5%	1/6W
S1	S03-5501-15	ROTARY SWITCH			
S2	S03-5501-15	ROTARY SWITCH			

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Ref. No	Parts No.	Name & Description		
S201	S60-0601-15	ROTARY SWITCH		
S401	S64-0612-08	LEVER SWITCH		
S402	S64-0612-08	LEVER SWITCH		
S403	S40-1532-05	PUSH SWITCH		
TC1	C05-0031-15	CAP. TRIMMER	10p	550V
TC2	C05-0308-05	CAP. TRIMMER	4p	550V
TC3	C05-0031-15	CAP. TRIMMER	10p	550V
TC4	C05-0308-05	CAP. TRIMMER	4p	550V
TC6	C05-0468-05	CAP. TRIMMER	6p	
TC51	C05-0031-15	CAP. TRIMMER	10p	550V
TC52	C05-0308-05	CAP. TRIMMER	4p	550V
TC53	C05-0031-15	CAP. TRIMMER	10p	550V
TC54	C05-0308-05	CAP. TRIMMER	4p	550V
TC56	C05-0468-05	CAP. TRIMMER	6p	
TC101	C05-0470-05	CAP. TRIMMER	20p	
TC501	C05-0471-05	CAP. TRIMMER	30p	
TC502	C05-0471-05	CAP. TRIMMER	30p	
VR1	R12-3144-05	RES. SEMI FIXED	20KB	0.2W
VR2	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR3	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR4	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR5	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR6	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR51	R12-3144-05	RES. SEMI FIXED	20KB	0.2W
VR52	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR53	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR54	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR55	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR57	R12-1529-05	RES. SEMI FIXED	2KB	0.2W
VR101	R12-0562-05	RES. SEMI FIXED	200B	0.2W
VR102	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR103	R12-1529-05	RES. SEMI FIXED	2KB	0.2W
VR104	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR151	R12-1528-05	RES. SEMI FIXED	1KB	0.2W
VR152	R12-3526-05	RES. SEMI FIXED	10KB	0.2W
VR201	R12-2517-05	RES. SEMI FIXED	5KB	0.2W
VR202	R12-1528-05	RES. SEMI FIXED	1KB	0.2W
VR250	R12-3537-05	RES. SEMI FIXED	20KB	0.2W
VR301	R12-2517-05	RES. SEMI FIXED	5KB	0.2W
VR302	R12-0561-05	RES. SEMI FIXED	100B	0.2W
VR303	R12-1528-05	RES. SEMI FIXED	1KB	0.2W

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CS-4125A COMPLEX UNIT (X80-1540-00)					
	E31-2170-05	JUMPER WIRE			
	F01-2409-08	HEAT SINK (B)			
	J73-0797-12	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS (M3*10)			
C1	CE04W2E101M	CAP. ELECTRO	100u	20%	250V
C2	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C3	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C4	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C5	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C6	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C7	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C9	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C10	CE04EW1C101M	CAP. ELECTRO	100u	20%	16V
C11	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C12	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C13	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C14	CE04W2C010M	CAP. ELECTRO	1u	20%	160V
C16	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C17	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C18	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C19	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C20	CE04EW1V221M	CAP. ELECTRO	220u	20%	35V
C22	CK45FB2H102K	CAP. CERAMIC	1000p	10%	500V
C23	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C24	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C25	C91-2902-08	CAP. CERAMIC	1000p	-20/80%	3KV
C26	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C27	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C28	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C29	C91-2902-08	CAP. CERAMIC	1000p	-20/80%	3KV
C30	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C31	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C32	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C33	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C34	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C72	CQ92FM1H103J	CAP. MYLAR	0.01u	5%	50V
C73	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C88	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C91	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C201	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C202	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
CN8	E40-7885-08	PIN CONNECTOR	10-9P		
CN9	E40-7887-08	PIN CONNECTOR	6-5P		
CN10	E40-7878-08	PIN CONNECTOR	2P		
CN12	E40-7889-08	PIN CONNECTOR	9-8P		
CN13	E40-7884-08	PIN CONNECTOR	8-7P		
CN14	E40-7879-08	PIN CONNECTOR	3P		
CN201	E40-7884-08	PIN CONNECTOR	8-7P		
CN202	E40-7885-08	PIN CONNECTOR	10-9P		
CN203	E40-7886-08	PIN CONNECTOR	11-10P		
CN204	E40-7888-08	PIN CONNECTOR	5-4P		

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CN312	E40-7889-08	PIN CONNECTOR	9-8P	
CN315	E40-7890-08	PIN CONNECTOR	2P	
CN400	E01-0103-05	CRT SOCKET		
CN406	E40-7883-08	PIN CONNECTOR	4-3P	
CN407	E40-7879-08	PIN CONNECTOR	3P	
CN409	E40-7887-08	PIN CONNECTOR	6-5P	
CN414	E40-7878-08	PIN CONNECTOR	2P	
D1	S1VB60	DIODE		
D2	S1VB20	DIODE		
D3	ISS133	DIODE		
D4	MTZ10JC	DIODE, ZENER		
D5	MTZ10JC	DIODE, ZENER		
D6	ISS133	DIODE		
D7	ISS133	DIODE		
D9	DHM3FJ60	DIODE		
D10	DHM3FJ60	DIODE		
D11	1SS83	DIODE		
D12	1SS83	DIODE		
D13	1SS83	DIODE		
D14	1SS83	DIODE		
D16	ISS133	DIODE		
D17	ISS133	DIODE		
D71	ISS133	DIODE		
D201	ISS133	DIODE		
D202	ISS133	DIODE		
D203	ISS133	DIODE		
F1	F50-0013-05	FUSE (5*20) 250V/315mA		
IC1	KMA03	HIC		
IC2	NJM4558D	IC;GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
IC71	NJM4558D	IC;GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
L10	L37-0107-08	FERRI INDUCTOR	10uH	10%
L11	L37-0107-08	FERRI INDUCTOR	10uH	10%
L401	L37-0104-08	FERRI INDUCTOR	4.7uH	10%
L402	L37-0104-08	FERRI INDUCTOR	4.7uH	10%
NL1	NE-38B	NEON LAMP		
NL2	NE-38B	NEON LAMP		
NL301	NE-38B	NEON LAMP		
Q1	2SA1156(L)	TR. SI, PNP		
Q2	2SC2909(S)	TR. SI, NPN		
Q3	2SC1384(R)	TR. SI, NPN		
Q4	2SA684(R)	TR. SI, PNP		
Q5	2SC1384(R)	TR. SI, NPN		
Q6	2SA1208(S)	TR. SI, PNP		
Q7	2SC2910(S)	TR. SI, NPN		
Q8	2SD2531	TR. SI, NPN		
Q9	2SA933AS(R, S)	TR. SI, PNP		
Q10	2SA1091(O)	TR. SI, PNP		
Q11	2SA1091(O)	TR. SI, PNP		
Q12	2SA1091(O)	TR. SI, PNP		
Q13	2SC1384(R)	TR. SI, NPN		
Q14	2SA684(R)	TR. SI, PNP		
Q15	2SA933AS(R, S)	TR. SI, PNP		

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Q71	2SC1740S(R, S)	TR. SI, NPN			
Q201	2SC1740S(R, S)	TR. SI, NPN			
R1	R92-4166-08	RES. CARBON	1K	5%	5W
R2	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R3	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R4	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R5	R92-4162-08	RES. CARBON	24	5%	2W
R6	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R7	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R8	R92-4162-08	RES. CARBON	24	5%	2W
R9	RD14KB2H181J	RES. CARBON	180	5%	1/2W
R10	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R11	RN14BK2C5601F	RES. METAL FILM	5.6K	1%	1/6W
R12	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R13	RD14BB2C3R3J	RES. CARBON	3.3	5%	1/6W
R14	RD14BB2C183J	RES. CARBON	18K	5%	1/6W
R15	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R16	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R17	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R18	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R19	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R20	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R21	RD14BB2E242J	RES. CARBON	2.4K	5%	1/4W
R22	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R23	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R24	RD14BB2C334J	RES. CARBON	330K	5%	1/6W
R25	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R26	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R27	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R28	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R29	RN14BK2C5602F	RES. METAL FILM	56K	1%	1/6W
R30	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R31	RN14BK2E1504F	RES. METAL FILM	1.5M	1%	1/4W
R32	RN14BK2E1204F	RES. METAL FILM	1.2M	1%	1/4W
R33	RN14BK2E1504F	RES. METAL FILM	1.5M	1%	1/4W
R34	RN14BK2E1204F	RES. METAL FILM	1.2M	1%	1/4W
R35	R92-4157-08	RES. HIGH VOLTAGE	3.6M	1%	1/4W
R36	R92-4157-08	RES. HIGH VOLTAGE	3.6M	1%	1/4W
R37	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R38	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R40	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R41	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R42	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R43	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R44	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R45	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R46	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R47	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R48	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R49	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R50	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R51	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R52	RD14BB2C2R2J	RES. CARBON	2.2	5%	1/6W
R53	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R54	RD14BB2C470J	RES. CARBON	47	5%	1/6W

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R55	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R56	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R57	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R58	RD14BB2E515J	RES. CARBON	5.1M	5%	1/4W
R61	RD14BB2C114J	RES. CARBON	110K	5%	1/6W
R62	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R63	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R71	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R72	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R80	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R81	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R82	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R83	RN14BK2C1101F	RES. METAL FILM	1.1K	1%	1/6W
R84	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R201	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R202	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R203	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R204	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R301	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R302	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R401	RD14BB2C681J	RES. CARBON	680	5%	1/6W
R402	RD14BB2C681J	RES. CARBON	680	5%	1/6W
R403	RD14BB2C471J	RES. CARBON	470	5%	1/6W
S201	S64-0610-05	LEVER SWITCH			
S202	S64-0610-05	LEVER SWITCH			
S203	S40-1532-05	PUSH SWITCH			
S204	S40-1532-05	PUSH SWITCH			
S205	S64-0610-05	LEVER SWITCH			
S206	S40-1532-05	PUSH SWITCH			
T1	L19-0446-08	TRANSFORMER			
VR1	R12-1528-05	RES. SEMI FIXED	1KB		0.2W
VR2	R12-5524-05	RES. SEMI FIXED	100KB		0.2W
VR3	R12-8501-05	RES. SEMI FIXED	2.2MB		0.5W
VR4	R12-5026-05	RES. SEMI FIXED	220KB		0.5W
VR201	R05-3524-05	POTENTION METER	10KB		0.05W
VR202	R31-0836-08	POTENTION METER	10KB		0.1W
VR203	R31-0835-08	POTENTION METER	10KB		0.05W
VR204	R31-0835-08	POTENTION METER	10KB		0.05W
VR205	R31-0835-08	POTENTION METER	10KB		0.05W
VR302	R12-3563-05	RES. SEMI FIXED	10KB		0.5W
VR303	R31-0835-08	POTENTION METER	10KB		0.05W
VR304	R31-0835-08	POTENTION METER	10KB		0.05W

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Ref. No	Parts No.	Name & Description			
		CS-4135A COMPLEX UNIT (X80-1550-00)			
	E31-2170-05	JUMPER WIRE	0		
	F01-2409-08	HEAT SINK			
	J73-0798-12	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS (M3*10)			
A1	W02-4063-08	HIGH VOLTAGE BLOCK			
C1	CE04W2E101M	CAP. ELECTRO	100u	20%	250V
C2	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C3	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C4	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C5	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C6	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C7	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C9	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C10	CE04EW1C101M	CAP. ELECTRO	100u	20%	16V
C11	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C12	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C13	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C14	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C16	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C17	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C18	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C19	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C20	CE04EW1V221M	CAP. ELECTRO	220u	20%	35V
C22	CK45FB2H102K	CAP. CERAMIC	1000p	10%	500V
C23	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C24	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C26	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C27	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C28	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C29	C91-2902-08	CAP. CERAMIC	1000p	-20/80%	3KV
C30	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C31	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C32	CK45E3D472P	CAP. CERAMIC	4700p		2KV
C33	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C34	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C81	CE04W2C101M	CAP. ELECTRO	100u	20%	160V
C82	CE04EW2A470M	CAP. ELECTRO	47u	20%	100V
C83	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C85	CQ92FM1H103J	CAP. MYLAR	0.01u	5%	50V
C87	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C88	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C89	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C90	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C91	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C201	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C202	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C401	CC45FCH2H010C	CAP. CERAMIC	1p	0.25p	500V
CN9	E40-7887-08	PIN CONNECTOR	6-5P		
CN10	E40-7878-08	PIN CONNECTOR	2P		
CN11	E40-7886-08	PIN CONNECTOR	11-10P		

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CN12	E40-7891-08	PIN CONNECTOR	12-11P	
CN13	E40-7892-08	PIN CONNECTOR	13-12P	
CN14	E40-7879-08	PIN CONNECTOR	3P	
CN31	E40-7878-08	PIN CONNECTOR	2P	
CN201	E40-7884-08	PIN CONNECTOR	8-7P	
CN202	E40-7885-08	PIN CONNECTOR	10-9P	
CN203	E40-7886-08	PIN CONNECTOR	11-10P	
CN204	E40-7888-08	PIN CONNECTOR	5-4P	
CN312	E40-7891-08	PIN CONNECTOR	12-11P	
CN315	E40-7890-08	PIN CONNECTOR	2P	
CN400	E01-0103-05	CRT SOCKET		
CN406	E40-7883-08	PIN CONNECTOR	4-3P	
CN407	E40-7879-08	PIN CONNECTOR	3P	
CN409	E40-7887-08	PIN CONNECTOR	6-5P	
CN414	E40-7878-08	PIN CONNECTOR	2P	
D1	S1VB60	DIODE		
D2	PBS156GU	DIODE		
D3	1SS133	DIODE		
D4	MTZ10JC	DIODE, ZENER		
D5	MTZ10JC	DIODE, ZENER		
D6	1SS133	DIODE		
D7	1SS133	DIODE		
D10	DHM3FJ60	DIODE		
D11	1SS83	DIODE		
D12	1SS83	DIODE		
D13	1SS83	DIODE		
D14	1SS83	DIODE		
D16	1SS133	DIODE		
D17	1SS133	DIODE		
D31	S1VB60	DIODE		
D91	1SS133	DIODE		
D201	1SS133	DIODE		
D202	1SS133	DIODE		
D203	1SS133	DIODE		
F1	F50-0013-05	FUSE (5*20) 250V/315mA		
IC1	KMA03	HIC		
IC2	NJM4558D	IC;GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
IC31	NJM4558D	IC;GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
L10	L37-0107-08	FERRI INDUCTOR	10uH	10%
L11	L37-0107-08	FERRI INDUCTOR	10uH	10%
L401	L37-0103-08	FERRI INDUCTOR	1uH	10%
L402	L37-0103-08	FERRI INDUCTOR	1uH	10%
NL1	NE-38B	NEON LAMP		
NL2	NE-38B	NEON LAMP		
NL301	NE-38B	NEON LAMP		
P99	E23-0149-05	GROUND TERMINAL		
Q1	2SA1156(L)	TR. SI, PNP		
Q2	2SC2909(S)	TR. SI, NPN		
Q3	2SC1384(R)	TR. SI, NPN		
Q4	2SA684(R)	TR. SI, PNP		
Q5	2SC1384(R)	TR. SI, NPN		
Q6	2SA1208(S)	TR. SI, PNP		
Q7	2SC2910(S)	TR. SI, NPN		

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Q8	2SD2531	TR. SI, NPN			
Q9	2SA933AS(R,S)	TR. SI, PNP			
Q10	2SA1091(O)	TR. SI, PNP			
Q11	2SA1091(O)	TR. SI, PNP			
Q12	2SA1091(O)	TR. SI, PNP			
Q13	2SC1384(R)	TR. SI, NPN			
Q14	2SA684(R)	TR. SI, PNP			
Q15	2SA1005(K)	TR. SI, PNP			
Q31	2SA1156(L)	TR. SI, PNP			
Q32	2SC2909(S)	TR. SI, NPN			
Q33	2SC1740S(R,S)	TR. SI, NPN			
Q34	2SC1846(R)	TR. SI, NPN			
Q35	2SC1846(R)	TR. SI, NPN			
Q91	2SC1740S(R,S)	TR. SI, NPN			
Q201	2SC1740S(R,S)	TR. SI, NPN			
R1	R92-4165-08	RES. CARBON	3.9K	5%	3W
R2	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R3	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R4	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R5	R92-4162-08	RES. CARBON	24	5%	2W
R6	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R7	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R8	R92-4162-08	RES. CARBON	24	5%	2W
R10	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R11	RN14BK2C5601F	RES. METAL FILM	5.6K	1%	1/6W
R12	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R14	RD14BB2C243J	RES. CARBON	24K	5%	1/6W
R15	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R16	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R17	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R18	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R19	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R20	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R21	RD14BB2E242J	RES. CARBON	2.4K	5%	1/4W
R22	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R23	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R24	RD14BB2C334J	RES. CARBON	330K	5%	1/6W
R25	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R26	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R27	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R28	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R29	RN14BK2C6802F	RES. METAL FILM	68K	1%	1/6W
R30	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R31	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R32	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R33	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R34	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R35	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R36	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R37	RD14BB2C224J	RES. CARBON	220K	5%	1/6W
R38	RD14BB2C474J	RES. CARBON	470K	5%	1/6W
R40	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R41	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R42	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R43	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W

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R44	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R45	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R46	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R47	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R48	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R49	RD14BB2E335J	RES. CARBON	3.3M	5%	1/4W
R50	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R51	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R52	RD14BB2C7R5J	RES. CARBON	7.5	5%	1/6W
R53	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R54	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R55	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R56	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R57	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R58	RD14BB2E515J	RES. CARBON	5.1M	5%	1/4W
R61	RD14BB2C753J	RES. CARBON	75K	5%	1/6W
R62	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R63	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R70	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R71	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R72	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R73	RN14BK2C1101F	RES. METAL FILM	1.1K	1%	1/6W
R74	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R80	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R81	R92-4164-08	RES. CARBON	1.5K	5%	3W
R82	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R83	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R84	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R85	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R86	RN14BK2C1002F	RES. METAL FILM	10K	1%	1/6W
R87	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R88	RD14KB2H220J	RES. CARBON	22	5%	1/2W
R89	RD14KB2H220J	RES. CARBON	22	5%	1/2W
R90	R92-4161-08	RES. CARBON	270	5%	1W
R91	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R92	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R201	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R202	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R203	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R204	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R301	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R302	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R401	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R402	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R403	RD14BB2C471J	RES. CARBON	470	5%	1/6W
S201	S64-0610-05	LEVER SWITCH			
S202	S64-0610-05	LEVER SWITCH			
S203	S40-1532-05	PUSH SWITCH			
S204	S40-1532-05	PUSH SWITCH			
S205	S64-0610-05	LEVER SWITCH			
S206	S40-1532-05	PUSH SWITCH			
T1	L19-0447-08	TRANSFORMER			
VR1	R12-1528-05	RES. SEMI FIXED	1KB		0.2W
VR2	R12-5524-05	RES. SEMI FIXED	100KB		0.2W

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Ref. No	Parts No.	Name & Description		
VR3	R12-8501-05	RES. SEMI FIXED	2.2MB	0.5W
VR4	R12-5026-05	RES. SEMI FIXED	220KB	0.5W
VR201	R05-3524-05	POTENTION METER	10KB	0.05W
VR202	R31-0836-08	POTENTION METER	10KB	0.1W
VR203	R31-0835-08	POTENTION METER	10KB	0.05W
VR204	R31-0835-08	POTENTION METER	10KB	0.05W
VR205	R31-0835-08	POTENTION METER	10KB	0.05W
VR301	R31-0835-08	POTENTION METER	10KB	0.05W
VR302	R12-3563-05	RES. SEMI FIXED	10KB	0.5W
VR303	R31-0835-08	POTENTION METER	10KB	0.05W
VR304	R31-0835-08	POTENTION METER	10KB	0.05W

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❶

Ref. No	Parts No.	Name & Description			
CS-4135A (S/No. 6050001~) COMPLEX UNIT (X80-1550-00)					
	E31-2170-05	JUMPER WIRE	0		
	F01-2409-08	HEAT SINK			
	J73-0798-12	PCB (UNMOUNTED)			
	N67-3010-41	SCREW, SEMS (M3*10)			
A1	W02-4063-08	HIGH VOLTAGE BLOCK			
C1	CE04W2E101M	CAP. ELECTRO	100u	20%	250V
C2	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C3	CE04EW1C472M	CAP. ELECTRO	4700u	20%	16V
C4	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C5	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C6	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C7	CE04EW1A221M	CAP. ELECTRO	220u	20%	10V
C9	CE04HW1H010M	CAP. ELECTRO	1u	20%	50V
C10	CE04EW1C101M	CAP. ELECTRO	100u	20%	16V
C11	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C12	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C13	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C14	CE04W2C3R3M	CAP. ELECTRO	3.3u	20%	160V
C16	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C17	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C18	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C19	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C20	CE04EW1V221M	CAP. ELECTRO	220u	20%	35V
C22	CK45FB2H102K	CAP. CERAMIC	1000p	10%	500V
C23	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C24	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C26	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C27	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C28	C91-1317-05	CAP. CERAMIC	0.01u	-20/80%	2KV
C29	C91-2902-08	CAP. CERAMIC	1000p	-20/80%	3KV
C30	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C31	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C32	CK45E3D472P	CAP. CERAMIC	4700p		2KV
C33	CK45FB2H472K	CAP. CERAMIC	4700p	10%	500V
C34	C91-1309-05	CAP. CERAMIC	0.01u	10%	500V
C81	CE04W2C101M	CAP. ELECTRO	100u	20%	160V
C82	CE04EW2A470M	CAP. ELECTRO	47u	20%	100V
C83	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C85	CQ92FM1H103J	CAP. MYLAR	0.01u	5%	50V
C87	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C88	CE04EW1A470M	CAP. ELECTRO	47u	20%	10V
C89	CQ92FM1H104K	CAP. MYLAR	0.1u	10%	50V
C90	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C91	CQ92FM1H473K	CAP. MYLAR	0.047u	10%	50V
C201	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C202	CK45FB1H103K	CAP. CERAMIC	0.01u	10%	50V
C203	CK45FF1H103Z	CAP. CERAMIC	0.01u	-20/80%	50V
C401	CC45FCH2H010C	CAP. CERAMIC	1p	0.25p	500V
CN9	E40-7887-08	PIN CONNECTOR	6-5P		
CN10	E40-7878-08	PIN CONNECTOR	2P		

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❷

Ref. No	Parts No.	Name & Description		
CN11	E40-7886-08	PIN CONNECTOR	11-10P	
CN12	E40-7891-08	PIN CONNECTOR	12-11P	
CN13	E40-7892-08	PIN CONNECTOR	13-12P	
CN14	E40-7879-08	PIN CONNECTOR	3P	
CN31	E40-7878-08	PIN CONNECTOR	2P	
CN201	E40-7884-08	PIN CONNECTOR	8-7P	
CN202	E40-7885-08	PIN CONNECTOR	10-9P	
CN203	E40-7886-08	PIN CONNECTOR	11-10P	
CN204	E40-7888-08	PIN CONNECTOR	5-4P	
CN312	E40-7891-08	PIN CONNECTOR	12-11P	
CN315	E40-7890-08	PIN CONNECTOR	2P	
CN400	E01-0103-05	CRT SOCKET		
CN406	E40-7883-08	PIN CONNECTOR	4-3P	
CN407	E40-7879-08	PIN CONNECTOR	3P	
CN409	E40-7887-08	PIN CONNECTOR	6-5P	
CN414	E40-7878-08	PIN CONNECTOR	2P	
D1	S1VB60	DIODE		
D2	PBS156GU	DIODE		
D3	1SS133	DIODE		
D4	MTZ10JC	DIODE, ZENER		
D5	MTZ10JC	DIODE, ZENER		
D6	1SS133	DIODE		
D7	1SS133	DIODE		
D10	DHM3FJ60	DIODE		
D11	1SS83	DIODE		
D12	1SS83	DIODE		
D13	1SS83	DIODE		
D14	1SS83	DIODE		
D16	1SS133	DIODE		
D17	1SS133	DIODE		
D31	S1VB60	DIODE		
D91	1SS133	DIODE		
D201	1SS133	DIODE		
D202	1SS133	DIODE		
D203	1SS133	DIODE		
F1	F50-0013-05	FUSE (5*20) 250V/315mA		
IC1	KMA03	HIC		
IC2	NJM4558D	IC, GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
IC31	NJM4558D	IC, GENERAL-PURPOSE OPERATIONAL AMPLIFIER CONTAINING 2 CIRCUITS		
L10	L37-0107-08	FERRI INDUCTOR	10uH	10%
L11	L37-0107-08	FERRI INDUCTOR	10uH	10%
L401	L37-0103-08	FERRI INDUCTOR	1uH	10%
L402	L37-0103-08	FERRI INDUCTOR	1uH	10%
NL1	NE-38B	NEON LAMP		
NL2	NE-38B	NEON LAMP		
NL301	NE-38B	NEON LAMP		
P99	E23-0149-05	GROUND TERMINAL		
Q1	2SA1156(L)	TR. SI, PNP		
Q2	2SC2909(S)	TR. SI, NPN		
Q3	2SC1384(R)	TR. SI, NPN		
Q4	2SA684(R)	TR. SI, PNP		
Q5	2SC1384(R)	TR. SI, NPN		

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Q6	2SA1208(S)	TR. SI, PNP			
Q7	2SC2910(S)	TR. SI, NPN			
Q8	2SD2531	TR. SI, NPN			
Q9	2SA933AS(R,S)	TR. SI, PNP			
Q10	2SA1091(O)	TR. SI, PNP			
Q11	2SA1091(O)	TR. SI, PNP			
Q12	2SA1091(O)	TR. SI, PNP			
Q13	2SC1384(R)	TR. SI, NPN			
Q14	2SA684(R)	TR. SI, PNP			
Q15	2SA1005(K)	TR. SI, PNP			
Q31	2SA1156(L)	TR. SI, PNP			
Q32	2SC2909(S)	TR. SI, NPN			
Q33	2SC1740S(R,S)	TR. SI, NPN			
Q34	2SC1846(R)	TR. SI, NPN			
Q35	2SC1846(R)	TR. SI, NPN			
Q91	2SC1740S(R,S)	TR. SI, NPN			
Q201	2SC1740S(R,S)	TR. SI, NPN			
R1	R92-4165-08	RES. CARBON	3.9K	5%	3W
R2	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R3	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R4	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R5	R92-4162-08	RES. CARBON	24	5%	2W
R6	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R7	RD14BB2C221J	RES. CARBON	220	5%	1/6W
R8	R92-4162-08	RES. CARBON	24	5%	2W
R10	RN14BK2C3601F	RES. METAL FILM	3.6K	1%	1/6W
R11	RN14BK2C5601F	RES. METAL FILM	5.6K	1%	1/6W
R12	RD14BB2C203J	RES. CARBON	20K	5%	1/6W
R14	RD14BB2C243J	RES. CARBON	24K	5%	1/6W
R15	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R16	RD14BB2C562J	RES. CARBON	5.6K	5%	1/6W
R17	RD14BB2C164J	RES. CARBON	160K	5%	1/6W
R18	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W
R19	RD14BB2C823J	RES. CARBON	82K	5%	1/6W
R20	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R21	RD14BB2E242J	RES. CARBON	2.4K	5%	1/4W
R22	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R23	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R24	RD14BB2C334J	RES. CARBON	330K	5%	1/6W
R25	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R26	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R27	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R28	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R29	RN14BK2C6802F	RES. METAL FILM	68K	1%	1/6W
R30	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R31	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R32	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R33	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R34	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R35	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R36	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R37	RD14BB2C224J	RES. CARBON	220K	5%	1/6W
R38	RD14BB2C474J	RES. CARBON	470K	5%	1/6W
R40	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R41	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W

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R42	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R43	RD14BB2E395J	RES. CARBON	3.9M	5%	1/4W
R44	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R45	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R46	RN14BK2E2204F	RES. METAL FILM	2.2M	1%	1/4W
R47	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R48	RN14BK2E2004F	RES. METAL FILM	2M	1%	1/4W
R49	RD14BB2E335J	RES. CARBON	3.3M	5%	1/4W
R50	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R51	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R52	RD14BB2C7R5J	RES. CARBON	7.5	5%	1/6W
R53	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R54	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R55	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R56	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R57	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R58	RD14BB2E515J	RES. CARBON	5.1M	5%	1/4W
R61	RD14BB2C753J	RES. CARBON	75K	5%	1/6W
R62	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R63	RD14BB2C752J	RES. CARBON	7.5K	5%	1/6W
R70	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R71	RD14BB2C433J	RES. CARBON	43K	5%	1/6W
R72	RN14BK2C1503F	RES. METAL FILM	150K	1%	1/6W
R73	RN14BK2C1101F	RES. METAL FILM	1.1K	1%	1/6W
R74	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R80	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R81	R92-4164-08	RES. CARBON	1.5K	5%	3W
R82	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R83	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R84	RN14BK2C8202F	RES. METAL FILM	82K	1%	1/6W
R85	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R86	RN14BK2C1002F	RES. METAL FILM	10K	1%	1/6W
R87	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R88	RD14KB2H220J	RES. CARBON	22	5%	1/2W
R89	RD14KB2H220J	RES. CARBON	22	5%	1/2W
R90	R92-4161-08	RES. CARBON	270	5%	1W
R91	RD14BB2C393J	RES. CARBON	39K	5%	1/6W
R92	RD14BB2C563J	RES. CARBON	56K	5%	1/6W
R201	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W
R202	RD14BB2C473J	RES. CARBON	47K	5%	1/6W
R203	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R204	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R301	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R302	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R401	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R402	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R403	RD14BB2C471J	RES. CARBON	470	5%	1/6W
S201	S64-0610-05	LEVER SWITCH			
S202	S64-0610-05	LEVER SWITCH			
S203	S40-1532-05	PUSH SWITCH			
S204	S40-1532-05	PUSH SWITCH			
S205	S64-0610-05	LEVER SWITCH			
S206	S40-1532-05	PUSH SWITCH			
T1	L19-0447-08	TRANSFORMER			

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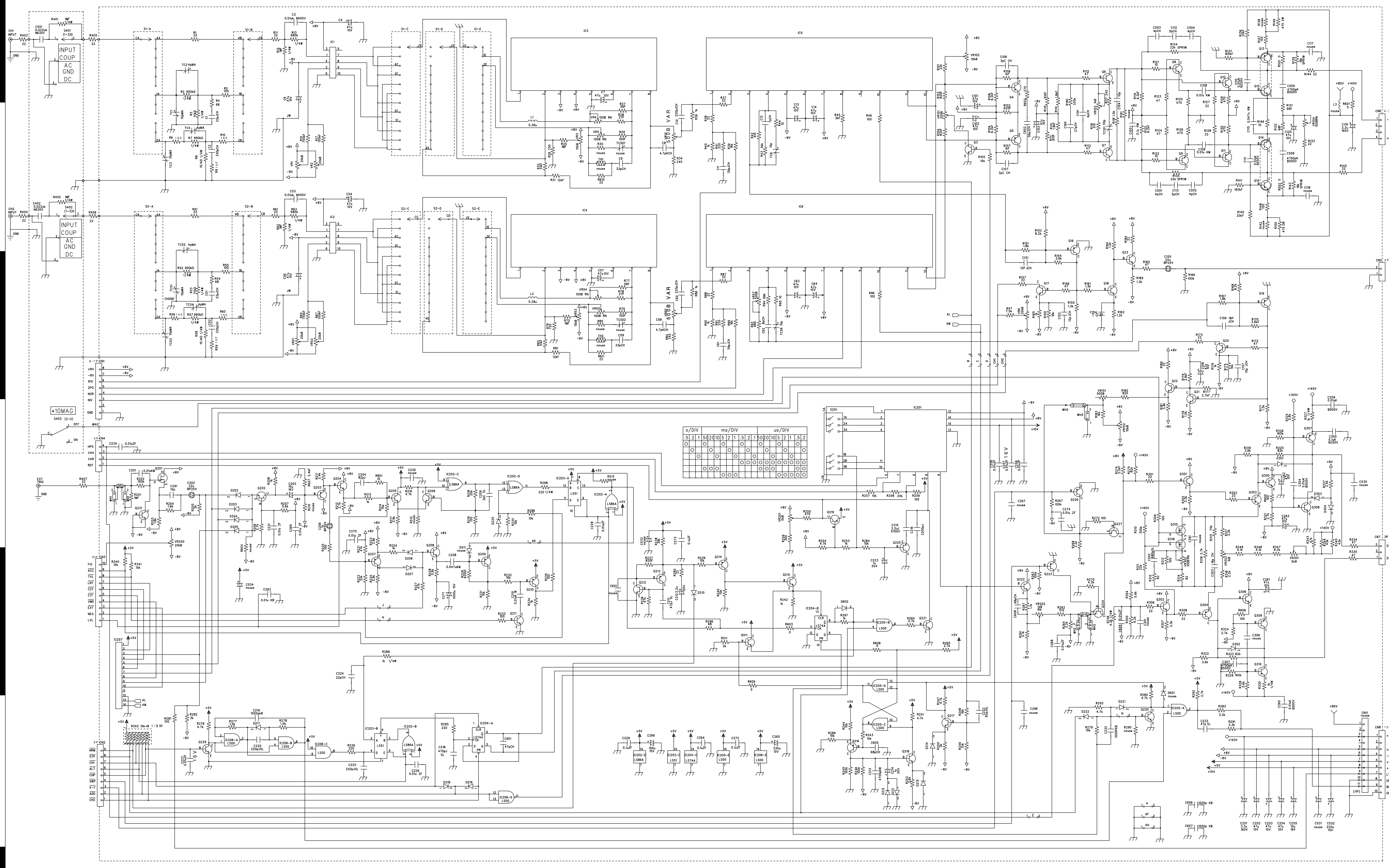
❺

Ref. No	Parts No.	Name & Description		
VR1	R12-1528-05	RES. SEMI FIXED	1KB	0.2W
VR2	R12-5524-05	RES. SEMI FIXED	100KB	0.2W
VR3	R12-8501-05	RES. SEMI FIXED	2.2MB	0.5W
VR4	R12-5026-05	RES. SEMI FIXED	220KB	0.5W
VR201	R05-3524-05	POTENTION METER	10KB	0.05W
VR202	R31-0836-08	POTENTION METER	10KB	0.1W
VR203	R31-0835-08	POTENTION METER	10KB	0.05W
VR204	R31-0835-08	POTENTION METER	10KB	0.05W
VR205	R31-0835-08	POTENTION METER	10KB	0.05W
VR301	R31-0835-08	POTENTION METER	10KB	0.05W
VR302	R12-3563-05	RES. SEMI FIXED	10KB	0.5W
VR303	R31-0835-08	POTENTION METER	10KB	0.05W
VR304	R31-0835-08	POTENTION METER	10KB	0.05W

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OVERALL UNIT (X65-1490-00)



IC1 KMC20
IC2 KMC20
IC3 KMC21
IC4 KMC21
IC5 KMC22
IC6 KMC22
IC201 KMD07
IC202 SN74LS86AN
IC203 SN74LS51N
IC204 SN74LS74AN
IC205 SN74LS00N
IC206 SN74LS00N
IC207 KMH03

Q3 2SC1740S(R,S)
Q4 2SA933AS(R,S)
Q5 2SA933AS(R,S)
Q6 2SC1923(O)
Q7 2SC1923(O)
Q8 2SC1923(O)
Q9 2SC1923(O)
Q10 2SA1005(K)
Q11 2SA1005(K)
Q12 2SC3787(S,T)
Q13 2SA1477(S,T)
Q14 2SC3787(S,T)

Q15 2SA1477(S,T)
Q16 2SA933S(R)
Q17 2SC1740S(R,S)
Q18 2SC1740S(R,S)
Q19 2SA933AS(R,S)
Q20 2SC1740S(R,S)
Q21 2SC1740S(R,S)
Q22 2SC1740S(R,S)
Q23 2SC1740S(R,S)

Q201 2SK161(GR)
Q202 2SC1740S(R,S)
Q203 2SA933AS(R,S)
Q204 2SC1740S(R,S)
Q205 2SC1923(O)
Q206 2SC1923(O)
Q207 2SA933AS(R,S)
Q208 2SC1740S(R,S)
Q209 2SA933AS(R,S)
Q210 2SA933AS(R,S)
Q211 2SC1740S(R,S)
Q212 2SC1740S(R,S)

Q213 2SA933AS(R,S)
Q214 2SA933AS(R,S)
Q215 2SC1740S(R,S)
Q216 2SA933AS(R,S)
Q217 2SC1740S(R,S)
Q218 2SC1740S(R,S)
Q219 2SA933AS(R,S)
Q220 2SC1740S(R,S)
Q221 2SC3732(L)
Q222 2SC1740S(R,S)
Q223 2SA933AS(R,S)
Q224 2SC1740S(R,S)

Q226 2SA933AS(R,S)
Q227 2SC1740S(R,S)
Q229 2SC1740S(R,S)
Q230 2SC1740S(R,S)
Q231 2SC1740S(R,S)

Q301 2SC1740S(R,S)
Q302 2SC1740S(R,S)
Q303 2SA1005(K)
Q304 2SA1005(K)
Q305 2SC1923(O)
Q306 2SC1923(O)

Q307 2SA1209(S,T)
Q308 2SC2911(S,T)
Q309 2SC2911(S,T)
Q310 2SA1209(S,T)
Q315 2SK583
Q316 2SK583

Q511 2SC1740S(R,S)

D202 1SS133
D203 1SS133
D204 1SS133
D205 1SS133
D206 1SS133
D207 1SS133
D210 1SS133
D212 1SS133
D213 1SS133
D214 1SS133
D215 1SS133
D217 1SS133

D218 1SS133
D219 1SS133
D220 1SS133
D221 MA700
D222 1SS133

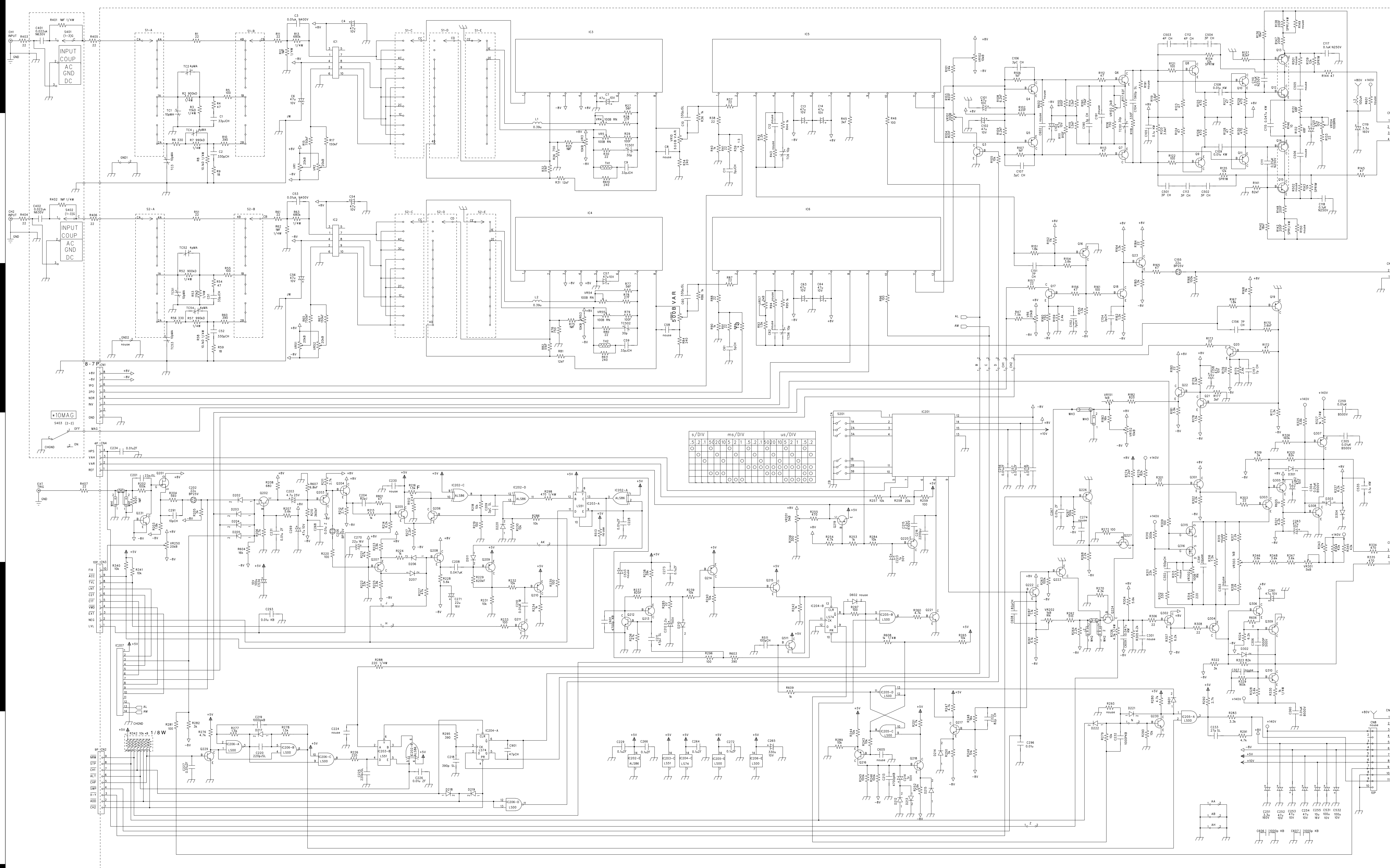
D301 1SS83
D302 1SS83
D303 1SS133
D304 1SS133

D602 1SS133

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OVERALL UNIT (X65-1500-00)



IC1 KMC20
IC2 KMC20
IC3 KMC21
IC4 KMC21
IC5 KMC22
IC6 KMC22
IC201 KMD07
IC202 SN74ALS86N
IC203 SN74LS51N
IC204 SN74LS74N
IC205 SN74LS00N
IC206 SN74LS00N
IC207 KMH03

Q3 2SC1740S(R,S)
Q4 2SA1459(L)
Q5 2SA1459(L)
Q6 2SC3354(S,T)
Q7 2SC3354(S,T)
Q8 2SC3354(S,T)
Q9 2SC3354(S,T)
Q10 2SA1459(L)
Q11 2SA1459(L)
Q12 2SC3423(Y)
Q13 2SA1360(Y)
Q14 2SC3423(Y)

Q15 2SA1360(Y)
Q16 2SA1005(K)
Q17 2SC1740S(R,S)
Q18 2SC1740S(R,S)
Q19 2SA1005(K)
Q20 2SC1740S(R,S)
Q21 2SC1740S(R,S)
Q22 2SC1740S(R,S)
Q23 2SC1740S(R,S)

Q201 2SK161(GR)
Q202 2SC1923(O)
Q203 2SA1005(K)
Q204 2SC3354(S,T)
Q205 2SC1923(O)
Q206 2SC1923(O)
Q207 2SA933AS(R,S)
Q208 2SC1740S(R,S)
Q209 2SA933AS(R,S)
Q210 2SA933AS(R,S)
Q211 2SC1740S(R,S)
Q212 2SC1923(O)

Q213 2SA1005(K)
Q214 2SA933AS(R,S)
Q215 2SC1740S(R,S)
Q216 2SA933AS(R,S)
Q217 2SC1740S(R,S)
Q218 2SC1740S(R,S)
Q219 2SA933AS(R,S)
Q220 2SC1740S(R,S)
Q221 2SC3732(L)
Q222 2SC1740S(R,S)
Q223 2SA933AS(R,S)
Q224 2SC1740S(R,S)

Q226 2SA933AS(R,S)
Q227 2SC1740S(R,S)
Q229 2SC1740S(R,S)
Q230 2SC1740S(R,S)
Q231 2SC1740S(R,S)

Q301 2SC1740S(R,S)
Q302 2SC1740S(R,S)
Q303 2SA1005(K)
Q304 2SA1005(K)
Q305 2SC1740S(R,S)
Q306 2SC1740S(R,S)

Q307 2SA1209(S,T)
Q308 2SC2911(S,T)
Q309 2SC2911(S,T)
Q310 2SA1209(S,T)
Q315 2SK583
Q316 2SK583

Q511 2SC1740S(R,S)

TH1 112-102-2FM
TH2 112-102-2FM

D202 1SS133
D203 1SS133
D204 1SS133
D205 1SS133
D206 1SS133
D207 1SS133
D210 1SS133
D212 1SS133
D213 1SS133
D214 1SS133
D215 1SS133
D217 1SS133

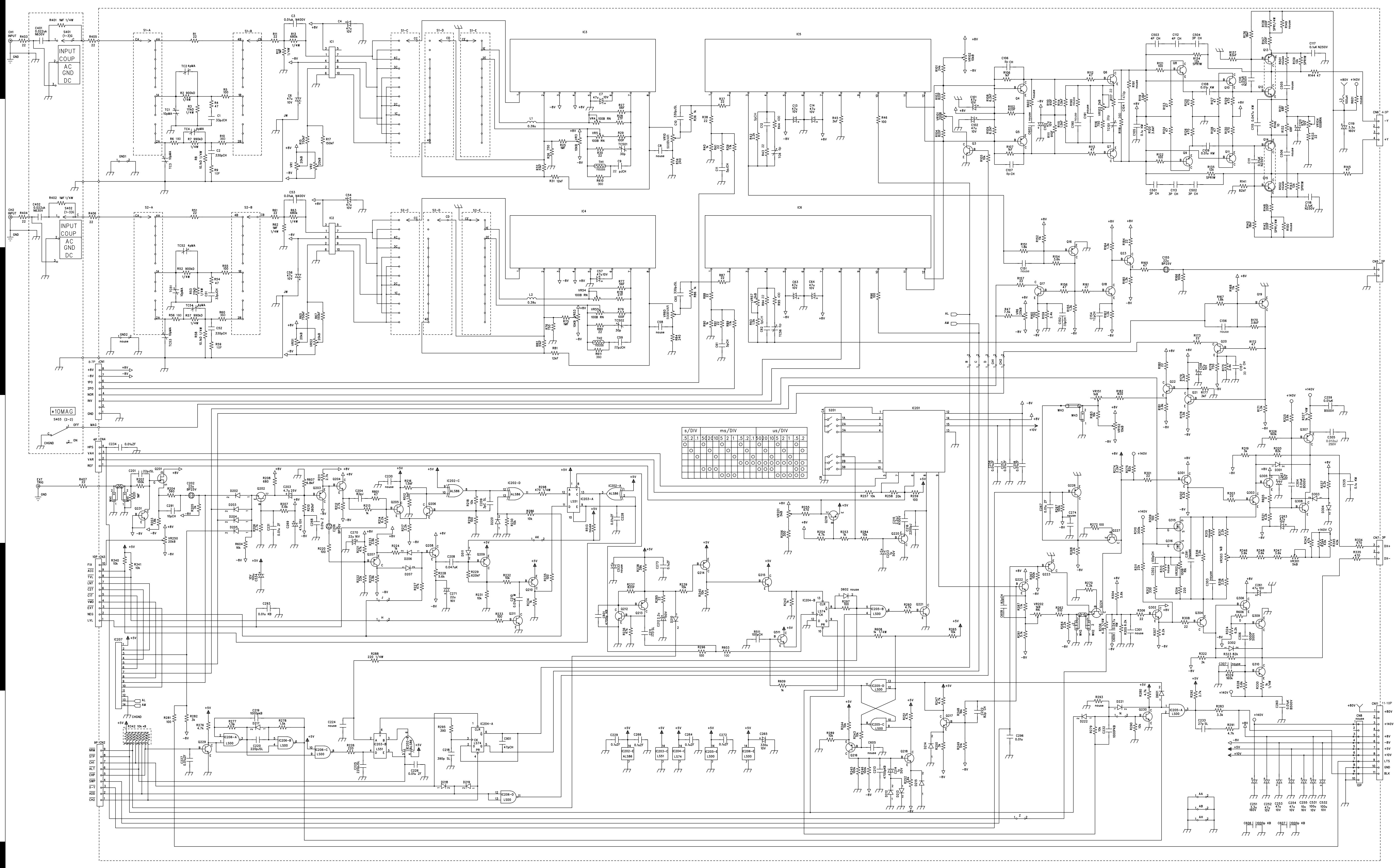
D218 1SS133
D219 1SS133
D220 1SS133
D221 MA700
D222 1SS133
D301 1SS83
D302 1SS83
D303 MA700
D304 1SS133

D511 MA700
D601 1SS133

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OVERALL UNIT (X65-1500-00 S/No.6050001~)

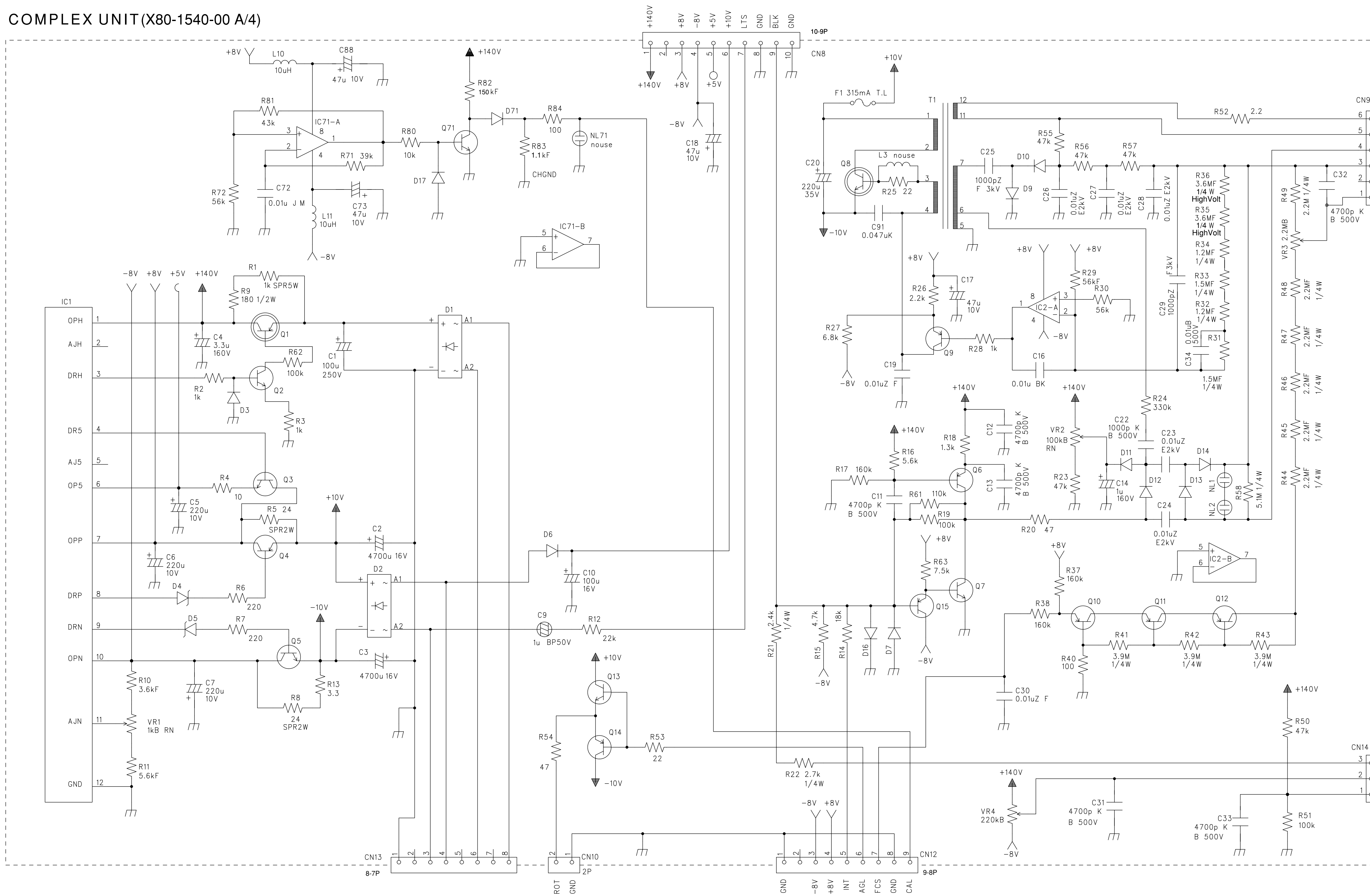


IC1 KMC20	Q3 2SC1740S(R,S)	Q15 2SA1360(Y)	Q201 2SK161(GR)	Q213 2SA933AS(R,S)	Q226 2SA933AS(R,S)	Q307 2SA1209(S,T)	D202 1SS133	D218 1SS133
IC2 KMC20	Q4 2SA1459(L)	Q16 2SA1005(K)	Q202 2SC1923(O)	Q214 2SA933AS(R,S)	Q227 2SC1740S(R,S)	Q308 2SC2911(S,T)	D203 1SS133	D219 1SS133
IC3 KMC21	Q5 2SA1459(L)	Q17 2SC1740S(R,S)	Q203 2SA1005(K)	Q215 2SC1740S(R,S)	Q229 2SC1740S(R,S)	Q309 2SC2911(S,T)	D204 1SS133	D220 1SS133
IC4 KMC21	Q6 2SC3354(S,T)	Q18 2SC1740S(R,S)	Q204 2SC3354(S,T)	Q216 2SA933AS(R,S)	Q230 2SC1740S(R,S)	Q310 2SA1209(S,T)	D205 1SS133	D221 MA700
IC5 KMC22	Q7 2SC3354(S,T)	Q19 2SA1005(K)	Q205 2SC1923(O)	Q217 2SC1740S(R,S)	Q231 2SC1740S(R,S)	Q315 2SK583	D206 1SS133	D222 1SS133
IC6 KMC22	Q8 2SC3354(S,T)	Q20 2SC1740S(R,S)	Q206 2SC1923(O)	Q218 2SC1740S(R,S)		Q316 2SK583	D207 1SS133	D301 1SS83
IC201 KMD07	Q9 2SC3354(S,T)	Q21 2SC1740S(R,S)	Q207 2SA933AS(R,S)	Q219 2SA933AS(R,S)	Q301 2SC1740S(R,S)		D210 1SS133	D302 1SS83
IC202 SN74ALS86N	Q10 2SA1459(L)	Q22 2SC1740S(R,S)	Q208 2SC1740S(R,S)	Q220 2SC1740S(R,S)	Q302 2SC1740S(R,S)	Q511 2SC1740S(R,S)	D212 1SS133	D303 MA700
IC203 SN74LS51N	Q11 2SA1459(L)	Q23 2SC1740S(R,S)	Q209 2SA933AS(R,S)	Q221 2SC3732(L)	Q303 2SA1005(K)		D213 1SS133	D304 1SS133
IC204 SN74LS74N	Q12 2SC3423(Y)		Q210 2SA933AS(R,S)	Q222 2SC1740S(R,S)	Q304 2SA1005(K)	TH1 112-102-2FM	D214 1SS133	
IC205 SN74LS00N	Q13 2SA1360(Y)		Q211 2SC1740S(R,S)	Q223 2SA933AS(R,S)	Q305 2SC1740S(R,S)	TH2 112-102-2FM	D215 1SS133	D511 MA700
IC206 SN74LS00N	Q14 2SC3423(Y)		Q212 2SC1740S(R,S)	Q224 2SC1740S(R,S)	Q306 2SC1740S(R,S)		D217 1SS133	D601 1SS133
IC207 KMH03								

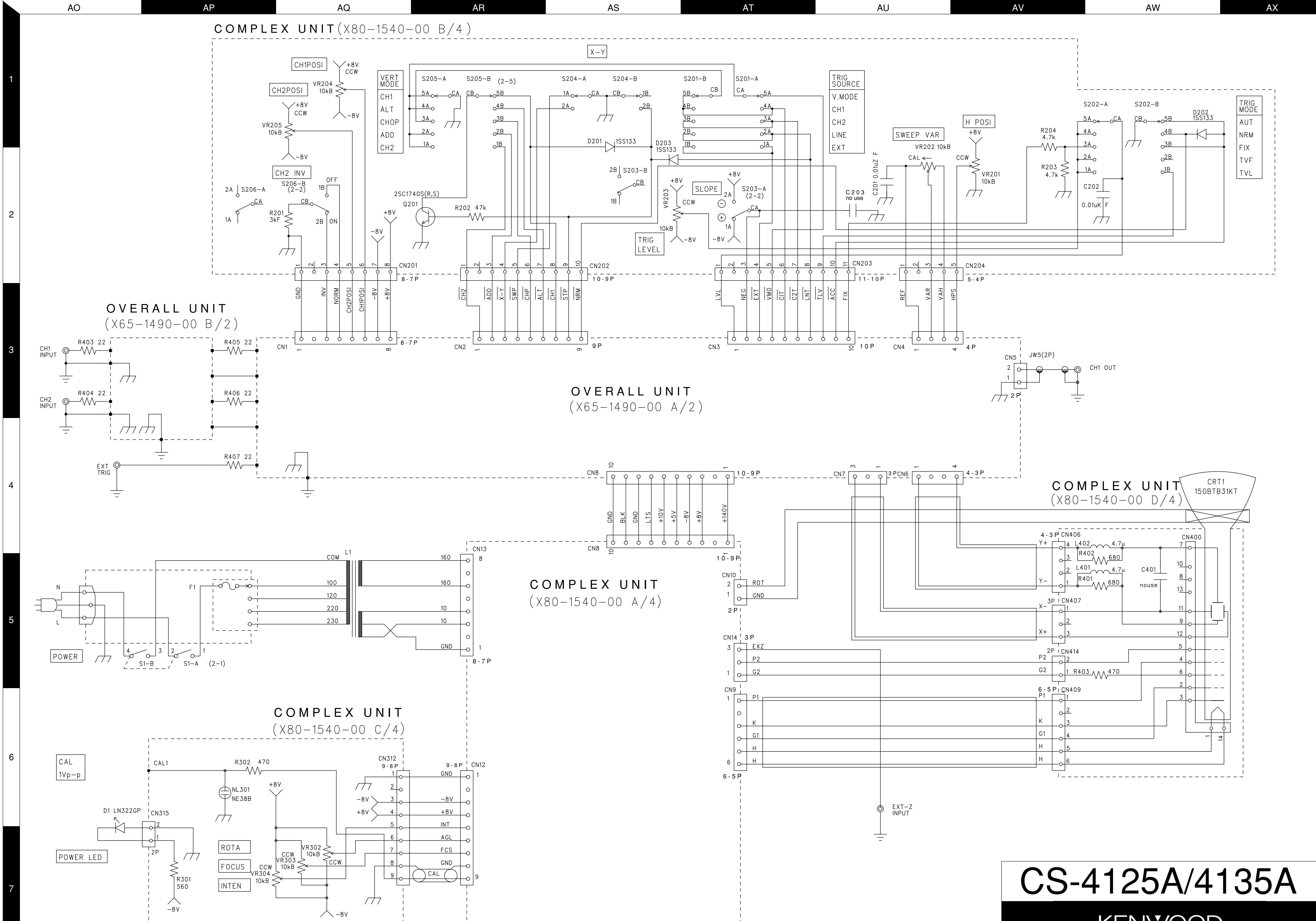
CS-4125A/4135A

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COMPLEX UNIT(X80-1540-00 A/4)



IC1	KMA03	NL1	NE38B	D1	S1VB60	D11	1SS83
IC2	NJM4558D	NL2	NE38B	D2	S1VB20	D12	1SS83
IC71	NJM4558D			D3	1SS133	D13	1SS83
				D4	MTZ10JC	D14	1SS83
Q1	2SA1156 (L)	Q9	2SA933AS(R,S)	D5	MTZ10JC	D16	1SS133
Q2	2SC2909 (S)	Q10	2SA1091 (O)	D6	1SS133	D17	1SS133
Q3	2SC1384 (R)	Q11	2SA1091 (O)	D7	1SS133	D71	1SS133
Q4	2SA684 (R)	Q12	2SA1091 (O)	D9	DHM3FJ60		
Q5	2SC1384 (R)	Q13	2SC1384 (R)	D10	DHM3FJ60		
Q6	2SA1208 (S)	Q14	2SA684 (R)				
Q7	2SC2910 (S)	Q15	2SA933AS(R,S)				
Q8	2SD2531	Q71	2SC1740S(R,S)				

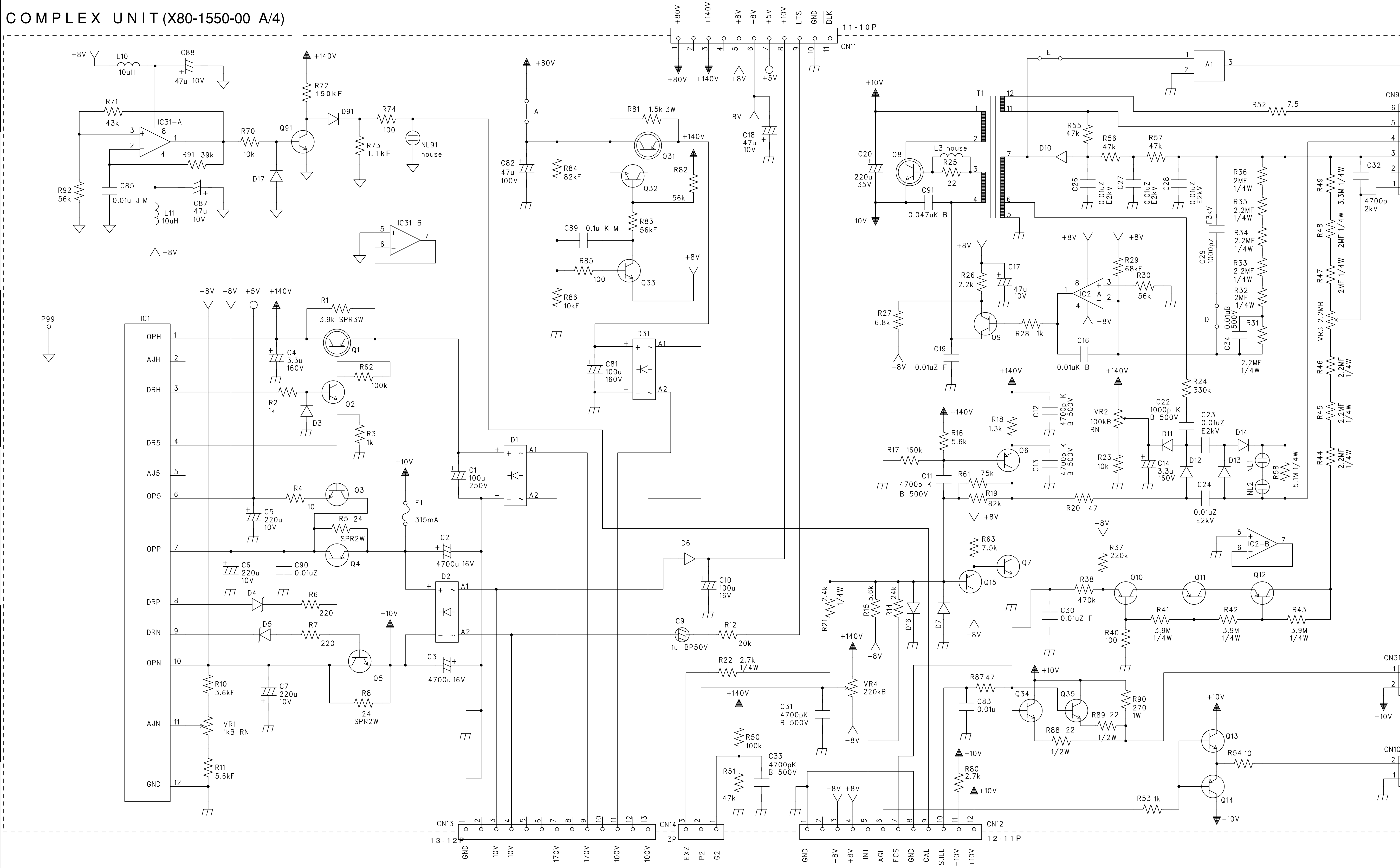


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AY AZ BA BB BC BD BE BF BG BH

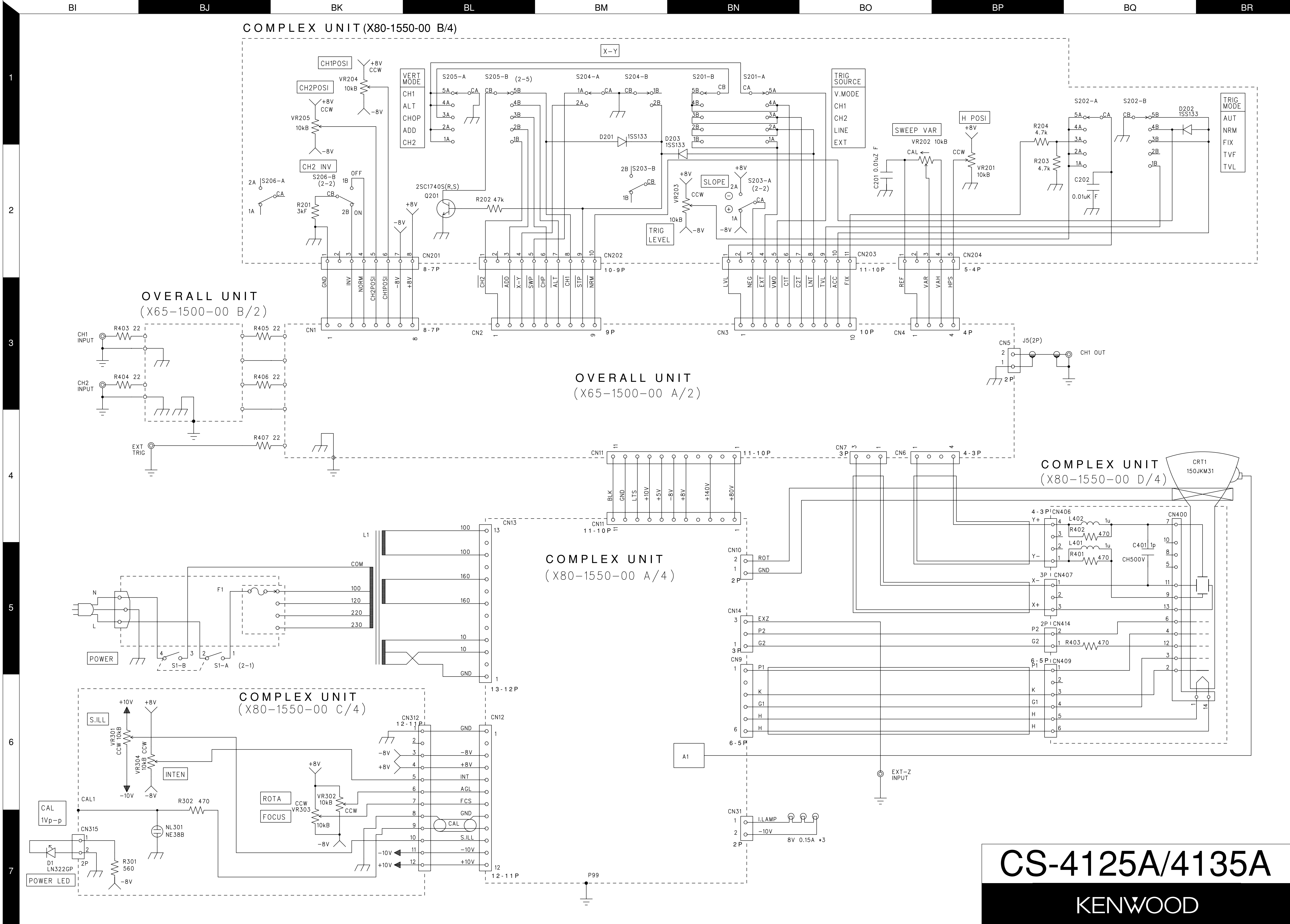
COMPLEX UNIT (X80-1550-00 A/4)



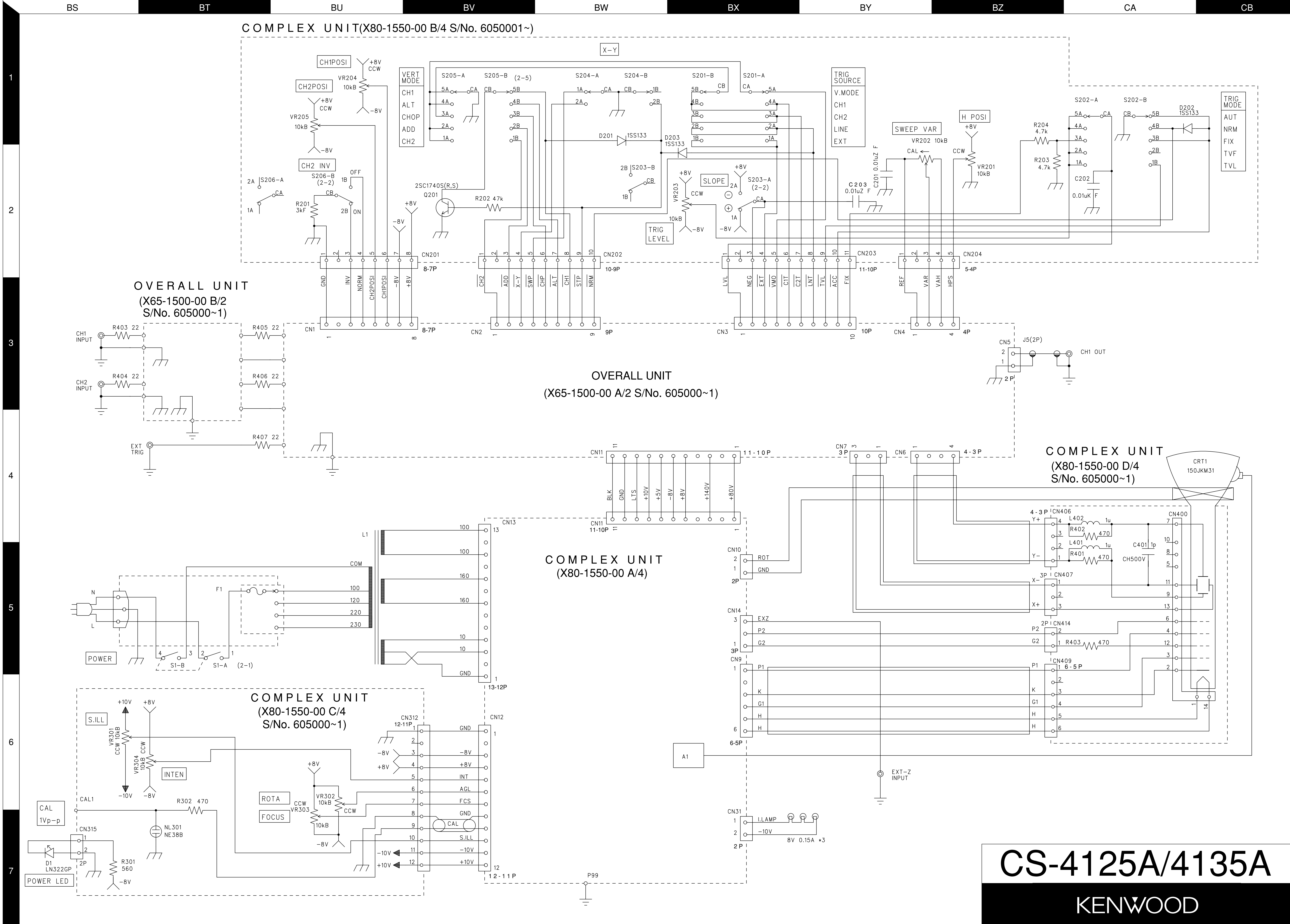
IC1	KMA03	NL1	NE38B	D1	S1VB60	D11	1SS83
IC2	NJM4558D	NL2	NE38B	D2	PBS156GU	D12	1SS83
IC31	NJM4558D			D3	1SS133	D13	1SS83
				D4	MTZ10JC	D14	1SS83
Q1	2SA1156 (L)	Q12	2SA1091 (O)	D5	MTZ10JC	D16	1SS133
Q2	2SC2909 (S)	Q13	2SC1384 (R)	D6	1SS133	D17	1SS133
Q3	2SC1384 (R)	Q14	2SA684 (R)	D7	1SS133	D31	S1VB60
Q4	2SA684 (R)	Q15	2SA1005 (K)	D10	DHM3FJ60	D91	1SS133
Q5	2SC1384 (R)	Q31	2SA1156 (L)			A1	W02-406308
Q6	2SA1208 (S)	Q32	2SC2909 (S)				
Q7	2SC2910 (S)	Q33	2SC1740S(R,S)				
Q8	2SD2531	Q34	2SC1846 (R)				
Q9	2SA933AS(R,S)	Q35	2SC1846 (R)				
Q10	2SA1091 (O)	Q91	2SC1740S(R,S)				
Q11	2SA1091 (O)						

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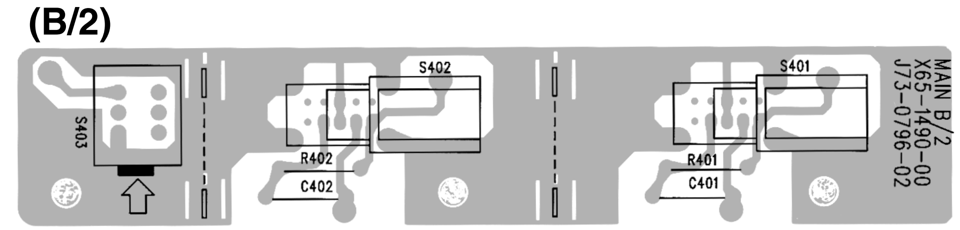
BI
BJ
BK
BL
BM
BN
BO
BP
BQ
BR
COMPLEX UNIT (X80-1550-00 B/4)
X-Y
CH1POSI
CH2POSI
VERT MODE
CH1
ALT
CHOP
ADD
CH2
TRIG SOURCE
V.MODE
CH1
CH2
LINE
EXT
SWEEP VAR
H POSI
TRIG MODE
AUT
NRM
FIX
TVF
TVL
CH2 INV
SLOPE
TRIG LEVEL
VR204 10kB
VR205 10kB
VR202 10kB
VR201 10kB
VR203 10kB
R201 3kF
R202 47k
R204 4.7k
R203 4.7k
C201 0.01uZ F
C202 0.01uK F
D201 1SS133
D203 1SS133
D202 1SS133
2SC1740S(R,S) Q201
S205-A
S205-B (2-5)
S204-A
S204-B
S201-B
S201-A
S202-A
S202-B
S206-A
S206-B (2-2)
S203-B
S203-A (2-2)
CN201 8-7P
CN202 10-9P
CN203 11-10P
CN204 5-4P
GND
INV
NORM
CH2POSI
CH1POSI
-8V
+8V
CH2
ADD
X-Y
SWP
CHP
ALT
CH1
STP
NRM
LVL
NEG
EXT
VMO
C1T
C2T
LNT
TVL
ACC
FIX
REF
VAR
VAH
HPS
OVERALL UNIT (X65-1500-00 B/2)
OVERALL UNIT (X65-1500-00 A/2)
CH1 INPUT
CH2 INPUT
EXT TRIG
R403 22
R404 22
R405 22
R406 22
R407 22
CN1 8-7P
CN2 9P
CN3 10P
CN4 4P
CN5 2P
J5(2P)
CH1 OUT
CN11 11-10P
CN7 3P
CN6 4-3P
BLK
GND
LTS
+10V
+5V
-8V
+8V
+140V
+80V
COMPLEX UNIT (X80-1550-00 D/4)
CRT1 150JKM31
CN406 4-3P
CN407 3P
CN414 2P
CN409 6-5P
CN400
L402 1u
L401 1u
R402 470
R401 470
C401 1p CH500V
R403 470
COMPLEX UNIT (X80-1550-00 A/4)
CN13 13-12P
CN10 2P
ROT
GND
CN14 3P
EXZ
P2
G2
CN9 6-5P
P1
K
G1
H
A1
EXT-Z INPUT
CN31 2P
I.LAMP
-10V
8V 0.15A ×3
P99
L1
COM
F1
N
L
POWER
S1-B
S1-A (2-1)
COMPLEX UNIT (X80-1550-00 C/4)
S.ILL
INTEN
VR301 10kB CCW
VR304 10kB CCW
ROTA
FOCUS
VR302 10kB
VR303 10kB
CAL 1Vp-p
CAL1
R302 470
NL301 NE38B
CN315 2P
D1 LN322GP
R301 560
POWER LED
CN312 12-11P
CN12 12-11P
INT
AGL
FCS
CAL
S.ILL
-10V
+10V



CS-4125A/4135A

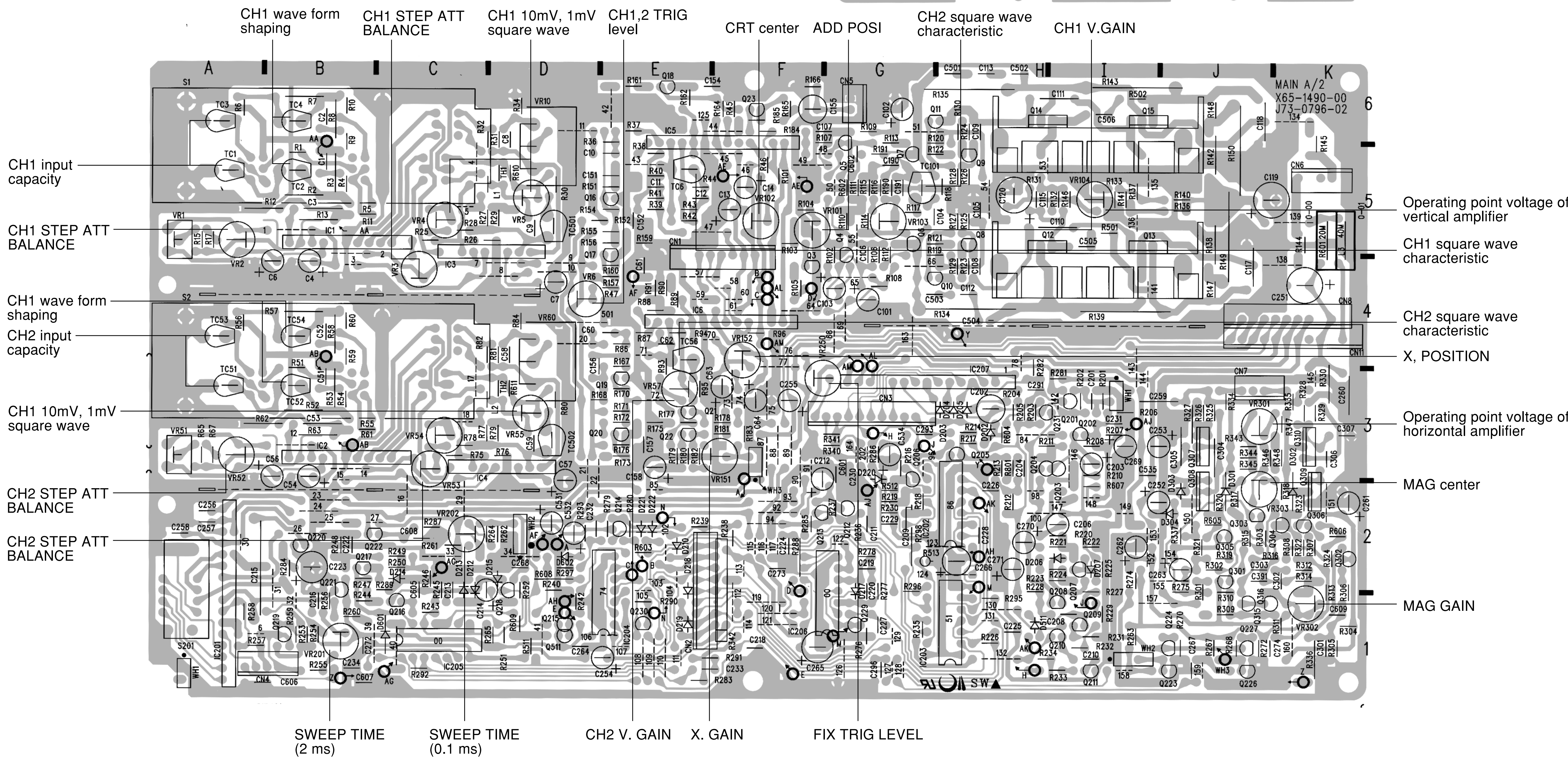
KENWOOD

PC BOARD(Component side view)



OVERALL UNIT (X65-1490-00 A/2 CS-4125A)

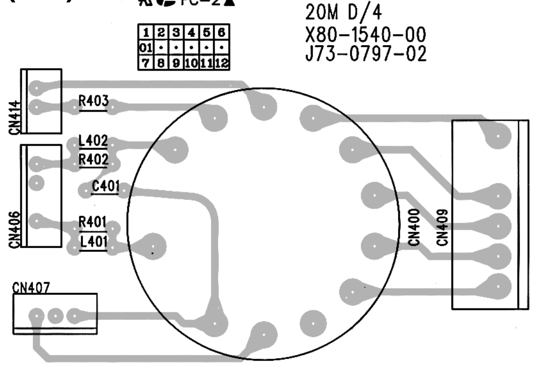
(X65-1500-00 A/2 CS-4135A)



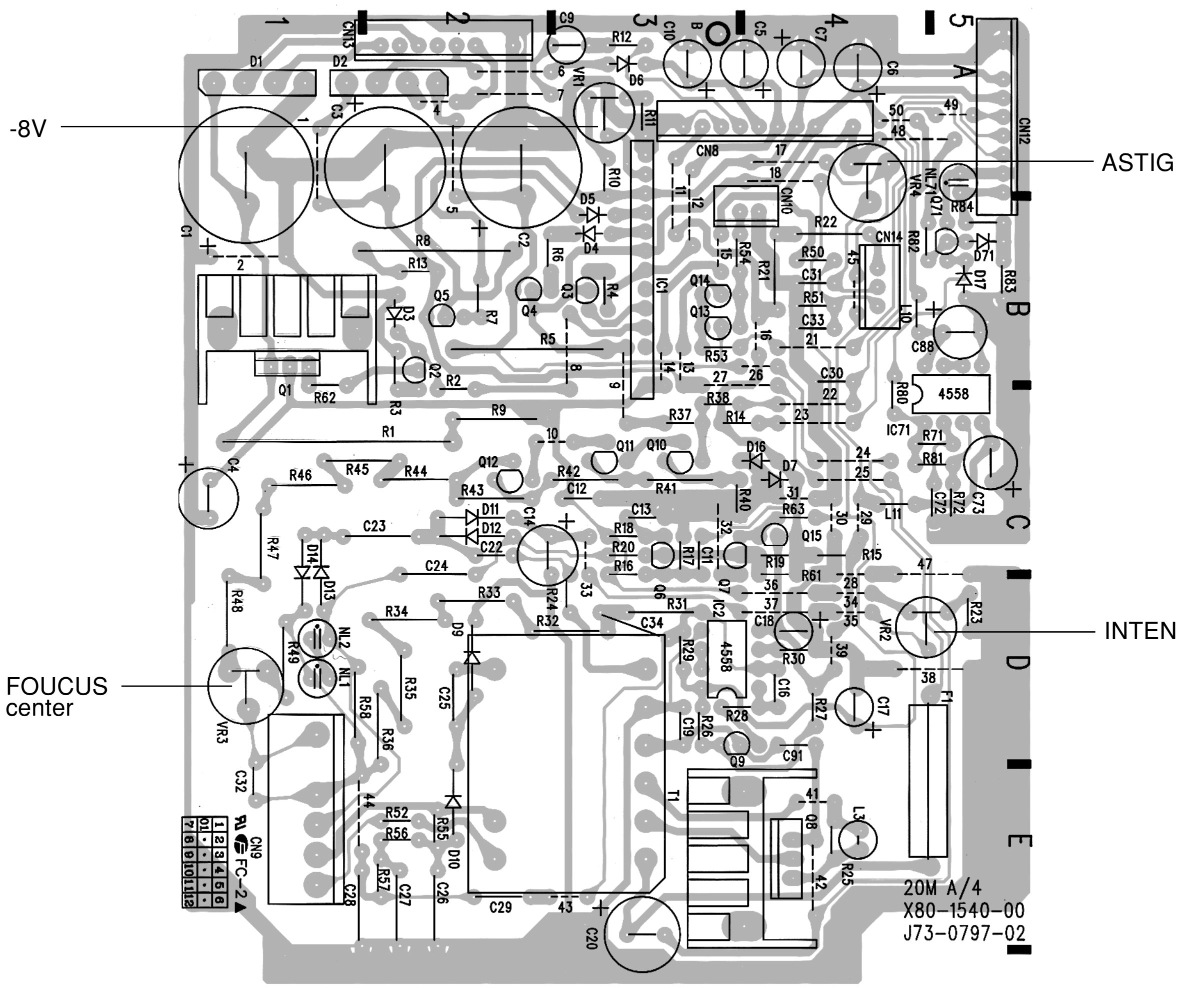
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD (Component side view)

(D/4)



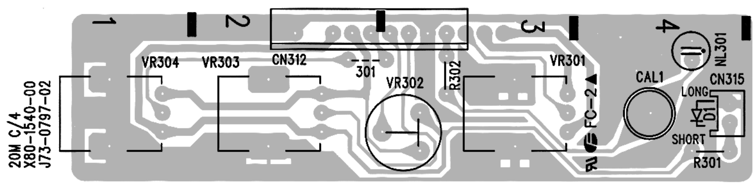
COMPLEX UNIT(X80-1540-00 A/4)



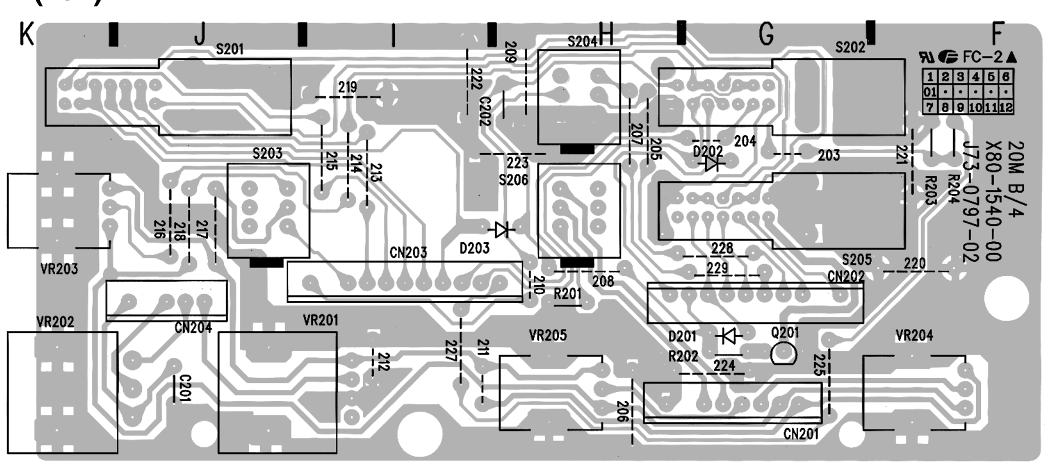
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD (Component side view)

(C/4)



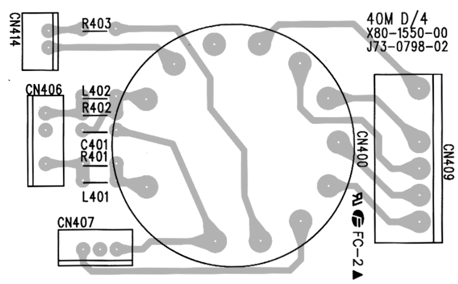
(B/4)



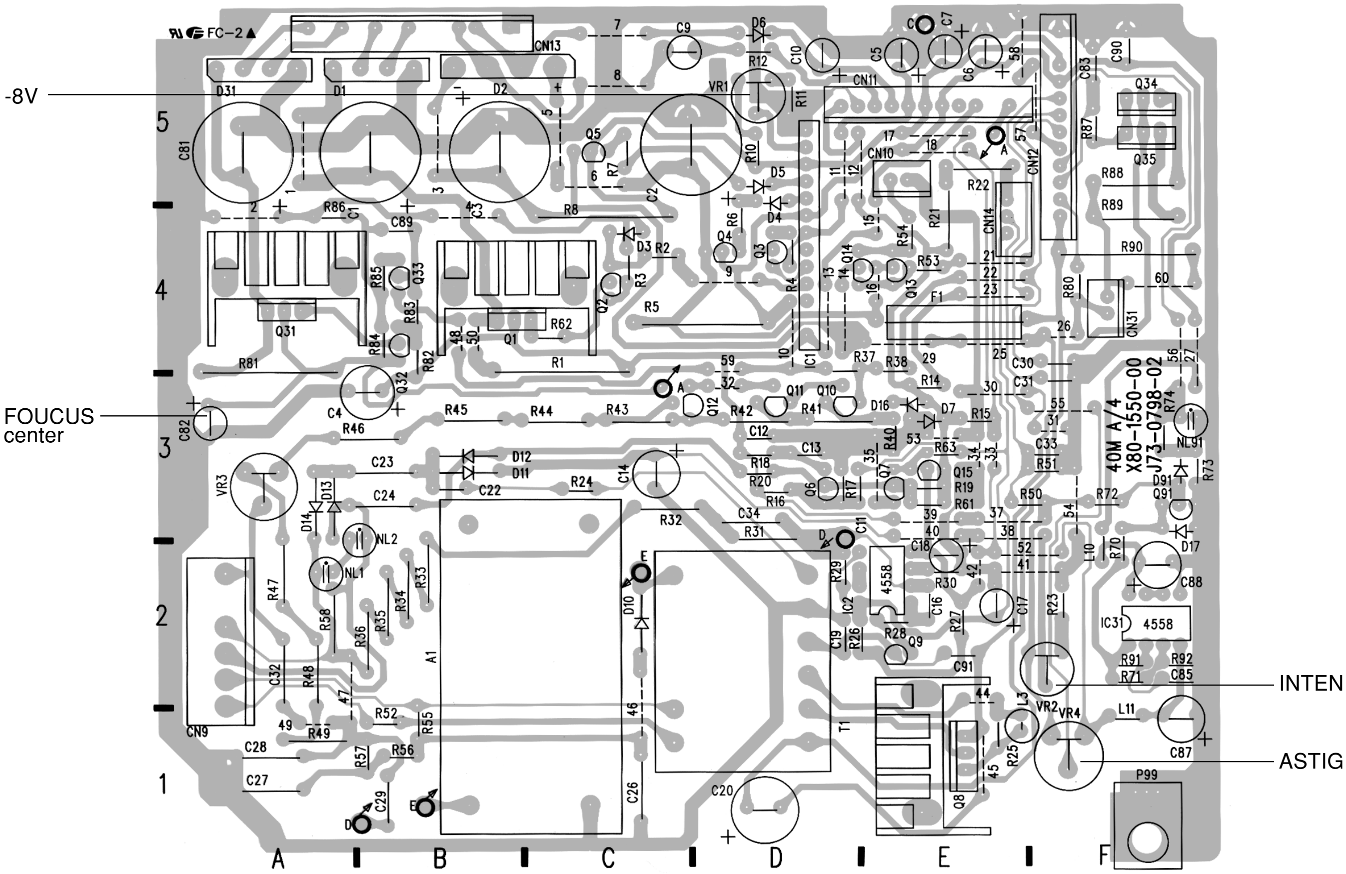
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD (Component side view)

(D/4)



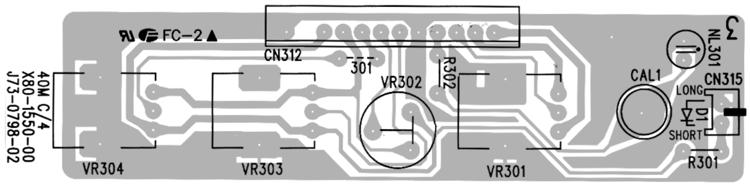
COMPLEX UNIT(X80-1550-00 A/4)



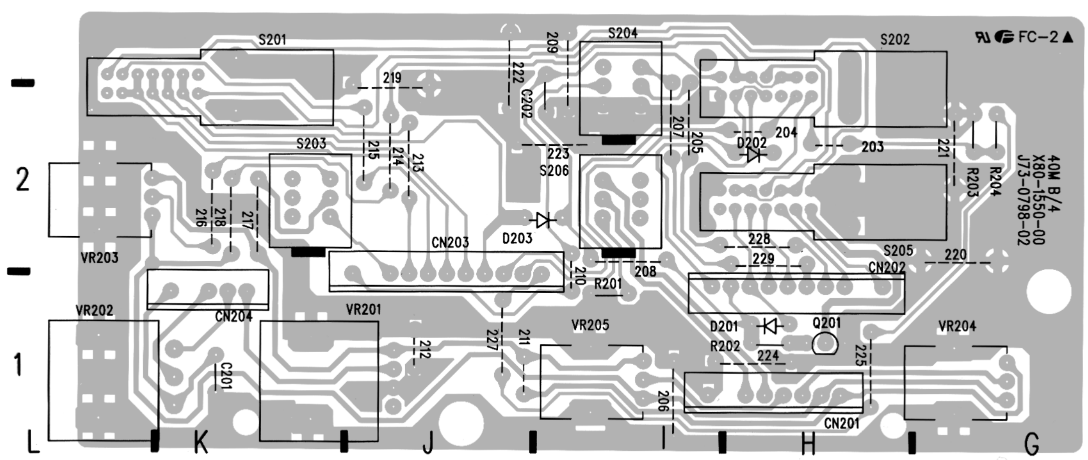
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD (Component side view)

(C/4)



(B/4)



Refer to the schematic diagram for the value of resistors and capacitors.

CS-4125A/CS-4135A

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KENWOOD TMI CORPORATION
1-16-2, HAKUSAN, MIDORI-KU, YOKOHAMA CITY 226, JAPAN